

Message

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**From:** Bodine, Susan (EPW) **Personal Matters / Ex. 6**  
**Sent:** 3/10/2017 7:03:14 PM  
**To:** Jackson, Ryan [jackson.ryan@epa.gov]  
**CC:** Brown, Byron [brown.byron@epa.gov]; Dravis, Samantha [dravis.samantha@epa.gov]  
**Subject:** draft IRIS doc

It is my understanding that that EPA (NCEA) is about to distribute for internal review a draft IRIS assessment for formaldehyde that fails to take into account data recently published (and soon to be published) in peer reviewed journals (by setting an arbitrary and secret cutoff date for considering information) and that fails to utilize the recent IRIS program changes regarding hazard identification and dose-response assessment (that were adopted at the recommendation of NAS).

Can you ask the appropriate person on your staff to review this matter before the draft is distributed for internal peer review? Or ask that person to call me?

Susan Parker Bodine  
Chief Counsel  
U .S. Senate Environment & Public Works Committee  
410 Dirksen Senate Office Building  
Washington, DC 20510  
202-224-6176

Message

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**From:** Dunlap, David [David.Dunlap@kochind.com]  
**Sent:** 2/1/2018 2:30:11 AM  
**To:** Jackson, Ryan [jackson.ryan@epa.gov]  
**Subject:** Formaldehyde Does Not Cause Leukemia  
**Attachments:** Formaldehyde - No link to Leukemia.docx

Mr. Jackson,

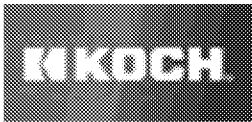
The attached document provides citations and summaries of 19 published and peer reviewed studies that prove that inhaled formaldehyde does not cause leukemia in humans.

We have previously provide this data to the EPA staff conducting the formaldehyde IRIS assessment, but we do not believe they have properly integrated this new science into their analysis.

I encourage you to have the NCEA staff explain to you why they continue to ignore this very compelling science.

Regards,

David



**David D. Dunlap** | Director, Environmental Regulatory Affairs  
Koch Industries, Inc.

Ex. 6 | david.dunlap@kochind.com  
[KOCHind.com](http://KOCHind.com) | [WeAreKOCH.com](http://WeAreKOCH.com)

*Politics is the art of looking for trouble, finding it everywhere, diagnosing it incorrectly and applying the wrong remedies – Groucho Marx*

Message

**From:** Johnston, Khanna [Johnston.Khanna@epa.gov]  
**Sent:** 2/21/2018 8:24:59 PM  
**To:** Carpenter, Thomas [Carpenter.Thomas@epa.gov]; Yeow, Aaron [Yeow.Aaron@epa.gov]  
**CC:** Moreau, Megan [Moreau.Megan@epa.gov]; Rousey, Toni [Rousey.Toni@epa.gov]  
**Subject:** FW: Senate EPW Oversight Hearing Questions for the Record  
**Attachments:** 2018.02.15 - All Pruitt QFRs 01.30.2018 - PROGRAM OFFICES NOTEDcjM.docx

**Importance:** High

FYI only....

In case this comes back tomorrow. I'm out. FYI only, I pushed it back, but wanted to loop you in.

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**From:** Johnston, Khanna  
**Sent:** Wednesday, February 21, 2018 3:20 PM  
**To:** Moody, Christina <Moody.Christina@epa.gov>  
**Cc:** Green, Noelle <Green.Noelle@epa.gov>; Brennan, Thomas <Brennan.Thomas@epa.gov>  
**Subject:** FW: Senate EPW Oversight Hearing Questions for the Record  
**Importance:** High

*Hi Christina,*

*Just for convenience, I pulled 81-85 into the body for Noelle and Tom- see below (cut and pasted);*

Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

Thank you, khanna

\*\*\*\*\*

**81. OPA:** Under your new policy, you exclude scientists who currently receive EPA grants from serving on EPA scientific advisory committees (link: [https://www.epa.gov/sites/production/files/2017-10/documents/final\\_draft\\_fac\\_directive-10.31.2017.pdf](https://www.epa.gov/sites/production/files/2017-10/documents/final_draft_fac_directive-10.31.2017.pdf)).

- a. What is the legal basis for this new directive?
- b. What is your reasoning in exempting tribal, state, and local EPA grant recipients from the directive?
- c. How do you define conflicts of interest within the EPA advisory committees?
- d. Have you consulted with scientific societies, the National Academies, or other independent science organizations about the definition of conflicts of interest?
- e. How will your directive work to ensure that the agency's advisory committees are able to make objective recommendations based on the best available science?
- f. Can you provide an example of a time when a EPA grant recipient on a federal advisory committee provided "conflicted" advice to the administrator?

- g. Now that your directive has tripled the number of industry scientists on the SAB, how will you ensure that the EPA's science advice remains independent?

- 82. OPA:** The policy excluding scientists does not affect individuals who have industry ties. For example, Dr. Tony Cox received money from American Chemistry Council, American Petroleum Institute, Engine Manufacturers Association, National Mining Association, and many others, yet you selected him to chair the Clean Air Scientific Advisory Committee (CASAC). Why are industry-funded individuals with apparent conflicts of interest more qualified to serve in these science committees than independent scientists?
- 83. OPA:** You took an unprecedented action and dismissed Dr. Donna Kenski from EPA CASC before her term expired, alleging that Kenski would not qualify under EPA's problematic new policy. Even so, Dr. Kenski's employer, the Lake Michigan Air Directors Consortium's EPA grant is routed through the state government, a category is exempted in the new policy. At the same time, Dr. Michael Honeycutt is allowed to chair the Scientific Advisory Board, even though he has received over \$58 million in grants while leading the Texas Commission on Environmental Quality. Why does the same policy disqualifies Dr. Kenski while allowing Dr. Honeycutt to serve?
- 84. OPA:** You pledged repeatedly in front of this committee that since you are a lawyer and a prosecutor, you would defer to your career staff for science advice. Yet you replaced Dr. Kenski with Dr. Larry Wolk, whom according to your staff's memo, had "no direct experience in health effects of air pollution, epidemiology, toxicology." On Dr. Tony Cox, your staff raised conflict of interest and appearance of a lack of impartiality issues. Will you commit to follow the recommendations of EPA's career staff so no one appointed to the EPA's advisory committees are either unqualified or have conflicts of interests so that the committees can provide you with the best and sound science that you and the agency so desperately need?
- 85. SAB:** In your hearing in front of the House Energy & Commerce Committee, you said that EPA has issued \$77 million in grant money to twenty members of the EPA scientific advisory committees. Please provide detailed information behind this statement, including the names of the 20 members, their affiliations, their EPA-funded projects and grant amount.

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**From:** Moody, Christina

**Sent:** Wednesday, February 21, 2018 12:47 PM

**To:** Brennan, Thomas <[Brennan.Thomas@epa.gov](mailto:Brennan.Thomas@epa.gov)>; Johnston, Khanna <[Johnston.Khanna@epa.gov](mailto:Johnston.Khanna@epa.gov)>

**Subject:** FW: Senate EPW Oversight Hearing Questions for the Record

**Importance:** High

**QFRS:**

Tom/Khanna,

Please see questions that have been reassigned to your program in the attached document (#81-84) and provide responses by next Wednesday, Feb 28. I initially assigned them to OPA but they suggested that SAB have the lead in drafting the response.

Let me know if you have questions.



Thanks!

Christina J. Moody  
US Environmental Protection Agency  
Office of Congressional Affairs & Intergovernmental Relations  
[Moody.Christina@epa.gov](mailto:Moody.Christina@epa.gov)

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**From:** Moody, Christina  
**Sent:** Friday, February 16, 2018 1:55 PM  
**To:** Grantham, Nancy <[Grantham.Nancy@epa.gov](mailto:Grantham.Nancy@epa.gov)>; Grogard, Megan <[Grogard.Megan@epa.gov](mailto:Grogard.Megan@epa.gov)>; Jones-Parra, Lisa <[Jones-Parra.Lisa@epa.gov](mailto:Jones-Parra.Lisa@epa.gov)>; Feeley, Drew (Robert) <[Feeley.Drew@epa.gov](mailto:Feeley.Drew@epa.gov)>; Kime, Robin <[Kime.Robin@epa.gov](mailto:Kime.Robin@epa.gov)>; Mills, Derek <[Mills.Derek@epa.gov](mailto:Mills.Derek@epa.gov)>; Linkins, Samantha <[Linkins.Samantha@epa.gov](mailto:Linkins.Samantha@epa.gov)>; Jones-Peeler, Meshell <[Jones-Peeler.Meshell@epa.gov](mailto:Jones-Peeler.Meshell@epa.gov)>; Kelty, Diane <[Kelty.Diane@epa.gov](mailto:Kelty.Diane@epa.gov)>  
**Subject:** Senate EPW Oversight Hearing Questions for the Record  
**Importance:** High

**All:**

Heads up on questions for the record from the Jan 30 Senate EPW hearing with Administrator Pruitt. Attached is the full set of QFRs. Each of your programs has been identified in the attached document.

Please take a look at the entire set to see if I missed any and if any need redirecting to or from your respective programs. Where there are two or more programs listed, the first program should take the lead in drafting the response, and work in coordination with the second and/or third programs listed to provide input.

These are on a tight turnaround; the draft responses are due to OCIR by Weds, Feb 28. Please let me know if you have any questions.

Thanks,

Christina J. Moody  
US Environmental Protection Agency  
Office of Congressional Affairs & Intergovernmental Relations  
[Moody.Christina@epa.gov](mailto:Moody.Christina@epa.gov)

## Appointment

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**From:** Ross, Christine [Ross.Christine@epa.gov]  
**Sent:** 10/25/2016 3:23:18 PM  
**To:** Ross, Christine [Ross.Christine@epa.gov]; Robinan Gentry [rgentry@ramboll.com]; Ken Mundt [kmundt@ramboll.com]; Cogliano, Vincent [cogliano.vincent@epa.gov]; Perovich, Gina [Perovich.Gina@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Jinot, Jennifer [Jinot.Jennifer@epa.gov]; Bateson, Thomas [Bateson.Thomas@epa.gov]; Fritz, Jason [Fritz.Jason@epa.gov]; Johnson, Antoinette [Johnson.Antoinette@epa.gov]; West, Jeremy [West.Jeremy@epa.gov]; Soto, Vicki [Soto.Vicki@epa.gov]; Slimak, Michael [Slimak.Michael@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Meadows, Leslie [Meadows.Leslie@epa.gov]  
**CC:** Shams, Dahnish [Shams.Dahnish@epa.gov]  
**Subject:** Formaldehyde  
**Attachments:** Final New Formaldehyde Science Ramboll Environ\_110716\_final.pdf  
**Location:** DCRoomPYS11100-Potomac  
  
**Start:** 11/7/2016 7:00:00 PM  
**End:** 11/7/2016 8:00:00 PM  
**Show Time As:** Tentative

Meeting with Dr. Ken Mundt and Dr. Robinan Gentry of Ramboll Environment, to discuss the new science and analyses relevant to the EPA IRIS Tox review of Formaldehyde.

For persons wishing to call in, the number is: Conference Line/Code / Ex. 6 conference code: Conference Line/Code / Ex. 6

**Room changed to: S-11621**

Good morning:

I sent you a copy of the draft presentation for the formaldehyde meeting today. I have now received the final version, and it is attached.



Final New  
Formaldehyde S...

Thank you.

Message

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**From:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Sent:** 12/12/2017 4:47:50 PM  
**To:** Bateson, Thomas [Bateson.Thomas@epa.gov]  
**CC:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** formaldehyde and ML  
**Attachments:** Mundt et al 2017\_Eupub.pdf; AML analyses.docx; Pira\_2014.pdf

Hi Tom,

I hope you are enjoying the SRA conference and you will be able to say goodbye to Ila in person!

I wanted to bring to your attention the review by Mundt accepted by Regulatory Toxicology and Pharmacology as there is a discussion about the literature on ML. **Deliberative Process / Ex. 5**

# Deliberative Process / Ex. 5

Thanks for your help as we try to finish up.

Regards, Barbara

## Myeloid leukemia

### *Epidemiologic Evidence*

The most specific classification of myeloid leukemia diagnosis that is commonly reported across the epidemiologic literature has been based on the first three digits of the Eighth or Ninth Revision of the ICD code (i.e., Myeloid Leukemia ICD-8/9: 205). For the purposes of this evaluation, cancer cases reported as monocytic leukemia or nonlymphocytic leukemia were included as myeloid leukemia. Evidence describing the association between formaldehyde exposure and the risk of myeloid leukemia was available from 12 epidemiologic papers reporting on 10 different study populations—three case-control studies {Talibov, 2014, 2799600; Hauptmann, 2009, 626498; Blair, 2001, 735839} and nine cohort studies {Coggon, 2014, 2337789; Meyers, 2013, 1998382; Saberi Hosnijeh, 2013, 2969929; Beane Freeman, 2009, 627726; Hayes, 1990, 626510; Ott, 1989, 1010430; Stroup, 1986, 626848; Walrath, 1983, 21345; Walrath, 1984, 626708}. {Hauptmann, 2009, 626498@@author-year} combined the study populations from {Hayes, 1990, 626510@@author-year} with those from Walrath and Fraumeni {, 1983, 21345;, 1984, 626708} and reconstructed individual exposure estimates. {Checkoway, 2015, 2965827@@author-year} reanalyzed {Beane Freeman, 2009, 627726@@author-year} with different definition of the exposure categories and presented results for specific sub-types of myeloid leukemia. These are the only formaldehyde studies that specifically evaluated the risk of myeloid leukemia. The outcome-specific evaluations of confidence in the reported effect estimate of an association from each study are provided in **Appendix A.5.9, Tables A-96 and A-97** and the confidence conclusions are provided in the evidence table for myeloid leukemia (**see Table 1-67**) following the causal evaluation.

## Appointment

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**From:** Ross, Christine [Ross.Christine@epa.gov]  
**Sent:** 11/7/2016 4:37:32 PM  
**To:** Robinan Gentry [rgentry@ramboll.com]; Ken Mundt [kmundt@ramboll.com]; Cogliano, Vincent [cogliano.vincent@epa.gov]; Perovich, Gina [Perovich.Gina@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Jinot, Jennifer [Jinot.Jennifer@epa.gov]; Bateson, Thomas [Bateson.Thomas@epa.gov]; Fritz, Jason [Fritz.Jason@epa.gov]; Johnson, Antoinette [Johnson.Antoinette@epa.gov]; West, Jeremy [West.Jeremy@epa.gov]; Soto, Vicki [Soto.Vicki@epa.gov]; Slimak, Michael [Slimak.Michael@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Meadows, Leslie [Meadows.Leslie@epa.gov]  
**CC:** Shams, Dahnish [Shams.Dahnish@epa.gov]  
**Subject:** Formaldehyde  
**Attachments:** Final New Formaldehyde Science Ramboll Environ\_110716\_final.pdf  
**Location:** DCRoomPYS11100-Potomac  
**Start:** 11/7/2016 7:00:00 PM  
**End:** 11/7/2016 8:00:00 PM  
**Show Time As:** Tentative

Meeting with Dr. Ken Mundt and Dr. Robinan Gentry of Ramboll Environment, to discuss the new science and analyses relevant to the EPA IRIS Tox review of Formaldehyde.

For persons wishing to call in, the number is:

**Personal Privacy / Ex. 6**

**Room changed to: S-11621**

Good morning:

I sent you a copy of the draft presentation for the formaldehyde meeting today. I have now received the final version, and it is attached.



Final New  
Formaldehyde S...

Thank you.

Message

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**From:** Thayer, Kris [thayer.kris@epa.gov]  
**Sent:** 12/4/2017 3:03:39 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Bateson, Thomas [Bateson.Thomas@epa.gov]  
**CC:** Bahadori, Tina [Bahadori.Tina@epa.gov]  
**Subject:** Fwd: Follow-up  
**Attachments:** Mundt et al 2017 - Six Year aftr NRC Review.pdf; ATT00001.htm

FYI

Sent from my iPhone

Begin forwarded message:

**From:** "Orme-Zavaleta, Jennifer" <Orme-Zavaleta.Jennifer@epa.gov>  
**Date:** December 4, 2017 at 8:49:33 AM EST  
**To:** "Bahadori, Tina" <Bahadori.Tina@epa.gov>, "Thayer, Kris" <thayer.kris@epa.gov>  
**Subject:** FW: Follow-up

To start your week...

Jennifer Orme-Zavaleta, PhD  
Principal Deputy Assistant Administrator for Science  
USEPA Office of Research and Development

Personal Phone / Ex. 6

Personal Phone / Ex. 6

[orme-zavaleta.jennifer@epa.gov](mailto:orme-zavaleta.jennifer@epa.gov)

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**From:** White, Kimberly [mailto:Kimberly.White@americanchemistry.com]  
**Sent:** Monday, December 04, 2017 8:22 AM  
**To:** Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>  
**Subject:** Follow-up

Dear Dr. Orme-Zavaleta,

Thank you for your initial response to my November 21<sup>st</sup> letter. Do you have availability for a 1 hour meeting in Washington, DC sometime during the week of January 22<sup>nd</sup> to discuss further?

Separately, I also wanted to alert you to a recently published article by Mundt et al. titled "Six years after the NRC Review of EPA's Draft IRIS Toxicological Review of Formaldehyde: Regulatory implications of new science in evaluating formaldehyde leukemogenicity". I have appended a copy of the in press version to this email and excerpted the abstract below.

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Regul Toxicol Pharmacol. 2017 Nov 17. pii: S0273-2300(17)30363-X. doi: 10.1016/j.yrtph.2017.11.006.  
[Epub ahead of print]

**Six years after the NRC Review of EPA's Draft IRIS Toxicological Review of Formaldehyde: Regulatory implications of new science in evaluating formaldehyde leukemogenicity.**

Mundt KA<sup>1</sup>, Gentry PR<sup>2</sup>, Dell LD<sup>2</sup>, Rodricks JV<sup>2</sup>, Boffetta P<sup>3</sup>.

**Author information**

**Abstract**

Shortly after the International Agency for Research on Cancer (IARC) determined that formaldehyde causes leukemia, the United States Environmental Protection Agency (EPA) released its Draft IRIS Toxicological Review of Formaldehyde, also concluding that formaldehyde causes leukemia. Peer review of the EPA Draft IRIS Assessment by a National Academy of Science committee noted that "causal determinations are not supported by the narrative provided in the draft" {NRC 2011}. They offered recommendations for improving the IRIS review and identified several important research gaps. Over the six years since the NRC peer review, significant new science has been published. We identify and summarize key NRC recommendations and map them to this new science, including extended analysis of epidemiological studies, updates of earlier occupational cohort studies, toxicological experiments using a sensitive mouse strain, mechanistic studies examining the role of exogenous versus endogenous formaldehyde in bone marrow, and several critical reviews. With few exceptions, new findings are consistently negative, and integration of all available evidence challenges the earlier conclusions that formaldehyde causes leukemia. Given formaldehyde's commercial importance, environmental ubiquity and endogenous production, accurate hazard classification and risk evaluation of whether exposure to formaldehyde from occupational, residential and consumer products causes leukemia are critical.

**KEYWORDS:**

Epidemiology; Evidence integration; Hazard evaluation; Mechanistic studies; Regulatory science; Toxicology

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Kind Regards,

Kimberly Wise White, Ph.D. | American Chemistry Council  
Senior Director, Chemical Products & Technology Division  
[Kimberly.White@americanchemistry.com](mailto:Kimberly.White@americanchemistry.com)  
700 2<sup>nd</sup> Street NE | Washington, DC | 20002  
O: (202) 249-6707 C: (202) 341-7602  
[www.americanchemistry.com](http://www.americanchemistry.com)

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Message

**From:** Cuje, Jace [Cuje.Jace@epa.gov]  
**Sent:** 4/21/2016 4:57:31 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Bateson, Thomas [Bateson.Thomas@epa.gov]; Jinot, Jennifer [Jinot.Jennifer@epa.gov]; Berner, Ted [Berner.Ted@epa.gov]; McQueen, Jacqueline [McQueen.Jacqueline@epa.gov]  
**Subject:** URGENT! FW: Interagency review comments on formaldehyde in composite wood products (CWPs) rule  
**Attachments:** EO 12866\_13563 EPA Formaldehyde 04-20-16.docx; RIN2070-AJ44\_EO12866\_Formaldehyde\_FRM\_EA\_2016-03-24.docx; RIN2070-AJ44\_EO12866\_Formaldehyde\_FRM\_FRdocument\_2016-03-11.docx

**Importance:** High

Barbara -- Good afternoon. Hope all's well with you and NCEA.

As I recall, we worked together on the Formaldehyde in CWPs final rule after Bob Sonawane (per his discussion with David) designated you as the NCEA representative, replacing him as a workgroup member. Accordingly, forwarding the below thread and requesting your assistance in responding to OPPT.

## Deliberative Process / Ex. 5

I propose that you consider the questions and timing **within NCEA** and reply to me ASAP with your preferred path forward ... we can proceed from there. Alternatively, I can schedule an internal call to further discuss this request.

Please consider and reply/call with urgent questions, comments or concerns; otherwise, I'll await NCEA's preference and proceed accordingly.

Thanks in advance and best wishes. ~~~ Jace

---

**From:** Silagi, William  
**Sent:** Thursday, April 21, 2016 10:50 AM  
**To:** Cuje, Jace <Cuje.Jace@epa.gov>  
**Cc:** Winchester, Erik <Winchester.Erik@epa.gov>; Wheeler, Cindy <Wheeler.Cindy@epa.gov>  
**Subject:** Interagency review comments on formaldehyde in composite wood products rule

Jace,

As the ORD representative to OPPT's formaldehyde rule workgroup, I should have included you on the email below. As noted below, we have received interagency review comments on the formaldehyde rule. OCSPP's policy is to respond to interagency review comments within 3 working days. Where a substantive response cannot be provided in that timeframe, the response should indicate how long we expect to need to provide a response (e.g., five additional working days).

As such, I have to provide a draft set of response for OPPT management review by Monday afternoon.

## Deliberative Process / Ex. 5

William Silagi

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**From:** Silagi, William  
**Sent:** Wednesday, April 20, 2016 4:48 PM  
**To:** Bateson, Thomas <[Bateson.Thomas@epa.gov](mailto:Bateson.Thomas@epa.gov)>; Jinot, Jennifer <[Jinot.Jennifer@epa.gov](mailto:Jinot.Jennifer@epa.gov)>  
**Subject:** Interagency review comments on formaldehyde in composite wood products rule

OMB has provided the first set of interagency review comments on the formaldehyde rule. The comments, which address both the EA/RIA and the Federal Register document, are attached. I have also attached the EA and the FR notice, in case you would like to see the full context of the text the comments are addressing.

## Deliberative Process / Ex. 5

There is no set deadline for responding to the comments, but OCSPP's policy is to respond as quickly as possible in order to keep the process moving and complete OMB review within the 90-day timeframe. I would appreciate it if you could give me some sense of when you think ORD may be able to provide input on responses.

OPPT is having a meeting with OP and OGC at 9 am tomorrow (Thursday, 4/21) in EPA East room 3371C to review the comments and discuss how to respond to them. ~~You are welcome to attend that~~ meeting, although it is by no means required. If you'd like to call in, the number is **Conference Line/Code / Ex. 6**

I'm also happy to have a separate phone call at some other time if you'd prefer to discuss the comments and potential responses that way.

Please let me know if you have any questions. Thanks for your continued support for this rulemaking activity.



Message

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**From:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]  
**Sent:** 11/22/2017 2:07:55 PM  
**To:** Fritz, Jason [Fritz.Jason@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Bateson, Thomas [Bateson.Thomas@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Makris, Susan [Makris.Susan@epa.gov]; Segal, Deborah [Segal.Deborah@epa.gov]; Whalan, John [Whalan.John@epa.gov]  
**CC:** Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]; Bussard, David [Bussard.David@epa.gov]  
**Subject:** RE: Hot off the press - on formaldehyde

Ha ha. . . that's a good one, Jason. And of course, where else but RTP.

-

*Ravi.*

-----  
Ravi Subramaniam  
RRB 51237/ (202) 564-2445 (o), (571) 305-3601 (m)  
-----

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**From:** Fritz, Jason  
**Sent:** Wednesday, November 22, 2017 9:06 AM  
**To:** Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>; Bateson, Thomas <Bateson.Thomas@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Makris, Susan <Makris.Susan@epa.gov>; Segal, Deborah <Segal.Deborah@epa.gov>; Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>; Whalan, John <Whalan.John@epa.gov>  
**Cc:** Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Bussard, David <Bussard.David@epa.gov>  
**Subject:** RE: Hot off the press - on formaldehyde

Thanks Sury!

Personal Matters / Ex. 6

jf

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**From:** Vulimiri, Suryanarayana  
**Sent:** Wednesday, November 22, 2017 8:27 AM  
**To:** Bateson, Thomas <Bateson.Thomas@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Fritz, Jason <Fritz.Jason@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Makris, Susan <Makris.Susan@epa.gov>; Segal, Deborah <Segal.Deborah@epa.gov>; Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>; Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>; Whalan, John <Whalan.John@epa.gov>  
**Cc:** Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Bussard, David <Bussard.David@epa.gov>  
**Subject:** Hot off the press - on formaldehyde

<< File: Mundt et al 2017\_Eupub.pdf >>

1. Regul Toxicol Pharmacol. 2017 Nov 17. pii: S0273-2300(17)30363-X. doi: 10.1016/j.yrtph.2017.11.006. [Epub ahead of print]

## Six years after the NRC Review of EPA's

# Draft IRIS Toxicological Review of Formaldehyde: Regulatory implications of new science in evaluating formaldehyde leukemogenicity.

Mundt KA<sup>1</sup>, Gentry PR<sup>2</sup>, Dell LD<sup>2</sup>, Rodricks JV<sup>2</sup>, Boffetta P<sup>3</sup>.

Author information:

1

Environment and Health, Ramboll Environ US Corporation, Amherst, MA, USA.  
Electronic address: [kmundt@ramboll.com](mailto:kmundt@ramboll.com).

2

Environment and Health, Ramboll Environ US Corporation, Amherst, MA, USA.

3

Icahn School of Medicine at Mount Sinai, New York, USA.

## Abstract

Shortly after the International Agency for Research on Cancer (IARC) determined that formaldehyde causes leukemia, the United States Environmental Protection Agency (EPA) released its Draft IRIS Toxicological Review of Formaldehyde, also concluding that formaldehyde causes leukemia. Peer review of the EPA Draft IRIS Assessment by a National Academy of Science committee noted that "causal determinations are not supported by the narrative provided in the draft" {NRC 2011}. They offered recommendations for improving the IRIS review and identified several important research gaps. Over the six years since the NRC peer review, significant new science has been published. We identify and summarize key NRC recommendations and map them to this new science, including extended analysis of epidemiological studies, updates of earlier occupational cohort studies, toxicological experiments using a sensitive mouse strain, mechanistic studies examining the role of exogenous versus endogenous formaldehyde in bone marrow, and several critical reviews. With few exceptions, new findings are consistently negative, and integration of all available evidence challenges the earlier conclusions that formaldehyde causes leukemia. Given formaldehyde's commercial importance, environmental ubiquity and endogenous production, accurate hazard classification and risk evaluation of whether exposure to formaldehyde from occupational, residential and consumer products causes leukemia are critical.

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**Sury Vulimiri, Ph.D., DABT** National Center for Environmental Assessment, Office of Research & Development, US EPA. Phone: 919-541-3558 | Fax: 919-541-0245 | [vulimiri.sury@epa.gov](mailto:vulimiri.sury@epa.gov)

Message

---

**From:** Kopylev, Leonid [Kopylev.Leonid@epa.gov]  
**Sent:** 6/26/2015 7:57:47 PM  
**To:** Bateson, Thomas [Bateson.Thomas@epa.gov]  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!  
**Attachments:** Case Study on Respiratory Effects (formaldehyde and asbestos) Draft June 26 2015.lk.docx

Tom,

You mind must be on something else! Please see attached changes and suggestions.

Leonid

---

**From:** Bateson, Thomas  
**Sent:** Friday, June 26, 2015 3:32 PM  
**To:** Kopylev, Leonid  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!

Here it is. Please track and changes.

---

**From:** Kopylev, Leonid  
**Sent:** Friday, June 26, 2015 3:02 PM  
**To:** Bateson, Thomas  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!

Thanks – can you send it as an attachment by any chance? For some reason sharepoint doesn't load now

---

**From:** Bateson, Thomas  
**Sent:** Friday, June 26, 2015 12:44 PM  
**To:** Kopylev, Leonid  
**Subject:** I revised the RAF case-study. Please review and revise if needed. Thanks!

## Deliberative Process / Ex. 5

Message

---

**From:** Kopylev, Leonid [Kopylev.Leonid@epa.gov]  
**Sent:** 6/30/2016 9:18:07 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Bateson, Thomas [Bateson.Thomas@epa.gov]; Jinot, Jennifer [Jinot.Jennifer@epa.gov]  
**CC:** Morozov, Viktor [Morozov.Viktor@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]  
**Subject:** review of cancer epi dose-response  
**Attachments:** Formaldehyde\_draft Tox Review\_ERC\_May2016.with cancer comments.lk.docx

All:

# Deliberative Process / Ex. 5

Leonid

---

**From:** Jones, Samantha  
**Sent:** Tuesday, May 24, 2016 9:05 PM  
**To:** Kopylev, Leonid <Kopylev.Leonid@epa.gov>  
**Cc:** Morozov, Viktor <Morozov.Viktor@epa.gov>  
**Subject:** Formaldehyde: NCEA Executive Review Committee

Hi Leonid,

You have been identified as an ideal reviewer for formaldehyde.

**Deliberative Process / Ex. 5**

## Deliberative Process / Ex. 5

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

---

**From:** Jones, Samantha  
**Sent:** Tuesday, May 24, 2016 8:28 PM  
**To:** Olden, Kenneth <Olden.Kenneth@epa.gov>; Vandenberg, John <Vandenberg.John@epa.gov>; Lynn Flowers <Flowers.Lynn@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Walsh, Debra <Walsh.Debra@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Morozov, Viktor

<Morozov.Viktor@epa.gov>; Susan Rieth <Rieth.Susan@epa.gov>; Andrew Hotchkiss <Hotchkiss.Andrew@epa.gov>; Subramaniam, Ravi <subramaniam.ravi@epa.gov>; Stanek, John <Stanek.John@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Hawkins, Belinda <Hawkins.Belinda@epa.gov>; Johnson, Craig <Johnson.Craig@epa.gov>; Gatchett, Annette <Gatchett.Annette@epa.gov>; Ted Berner <Berner.Ted@epa.gov>; D'Amico, Louis <damico.louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; White, Paul <White.Paul@epa.gov>

**Subject:** Formaldehyde: ERC Review

Hello all,

# Deliberative Process / Ex. 5

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

Message

---

**From:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Sent:** 3/14/2017 6:05:17 PM  
**To:** Bateson, Thomas [Bateson.Thomas@epa.gov]  
**CC:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** FW: Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel  
**Attachments:** Letter to EPA NCEA Director on Formaldehyde IRIS - Final- 03 07 17.pdf

Here is the letter that Tina forwarded which I assume is the same as the one in Inside EPA

---

**From:** Bahadori, Tina  
**Sent:** Thursday, March 09, 2017 4:23 AM  
**To:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Cc:** Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>  
**Subject:** Boomerang -- Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Barbara and Andrew,

# Deliberative Process / Ex. 5

Thanks,  
Tina

---

**From:** White, Kimberly [mailto:Kimberly\_White@americanchemistry.com]  
**Sent:** Tuesday, March 7, 2017 8:16 AM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>  
**Cc:** Kavlock, Robert <Kavlock.Robert@epa.gov>  
**Subject:** Letter Submitted on Behalf of the ACC Formaldehyde Panel

Dear Dr. Bahadori:

Please find attached a letter submitted on behalf of the American Chemistry Council Formaldehyde Panel.

Kind Regards,

Kimberly Wise White, Ph.D. | American Chemistry Council  
Senior Director, Chemical Products & Technology Division  
[Kimberly\\_White@americanchemistry.com](mailto:Kimberly_White@americanchemistry.com)  
700 2<sup>nd</sup> Street NE | Washington, DC | 20002  
O: (202) 249-6707 C: (202) 341-7602  
[www.americanchemistry.com](http://www.americanchemistry.com)

+++++ This message may contain confidential information and is intended only for the individual named. If you are not the named addressee do not disseminate, distribute or copy this email. Please notify the sender immediately by email if you have received this email by mistake and delete this email from your system. E-mail transmission cannot be guaranteed to be secure or error-free as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. The sender therefore does not accept liability for any errors or omissions in the contents of this message which arise as a

result of email transmission. American Chemistry Council, 700 – 2nd Street NE, Washington, DC 20002,  
[www.americanchemistry.com](http://www.americanchemistry.com)

Message

**From:** Bateson, Thomas [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29BFDDE020BF4E93B431B9A72D9D230F-BATESON, THOMAS]  
**Sent:** 11/17/2015 5:00:35 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** FW: Revised materials  
**Attachments:** Weighing epidemiologic evidence (Jan 23 2013) CLEAN.docx; Epi changes to the Preamble (Jan 23 2013).docx; Lymphohematopoietic Cancer and Formaldehyde\_for NAS\_Jan22.docx

**Importance:** High

Here is what we developed and proposed be sent to the NAS for the early 2013 meeting. Not sure if it ever went to NAS, and if it did, if there was any feedback.

## Deliberative Process / Ex. 5

---

**From:** Bateson, Thomas  
**Sent:** Wednesday, January 23, 2013 2:31 PM  
**To:** Cogliano, Vincent <cogliano.vincent@epa.gov>; Gehlhaus, Martin <Gehlhaus.Martin@epa.gov>  
**Cc:** Christensen, Krista <Christensen.Krista@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Wright, Michael <Wright.Michael@epa.gov>; Scott, Cheryl <Scott.Cheryl@epa.gov>; Cooper, Glinda <Cooper.Glinda@epa.gov>; Jinot, Jennifer <Jinot.Jennifer@epa.gov>  
**Subject:** Revised materials  
**Importance:** High

Vince and Martin,

## Deliberative Process / Ex. 5



Weighing  
epidemiologic evi...



Epi changes to the  
Preamble (Jan 2...

## Deliberative Process / Ex. 5



Lymphohematop...  
Cancer and For...

## Deliberative Process / Ex. 5

Please let me know if you have any concerns.

Tom



Thomas F. Bateson, ScD MPH  
Epidemiologist  
Effects Identification & Characterization Group  
EPA/ORD/NCEA  
1200 Pennsylvania Ave. NW (Mail Code 8623P)  
Washington, DC 20460

Phone: 703-347-8570

Message

---

**From:** Bateson, Thomas [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29BFDDE020BF4E93B431B9A72D9D230F-BATESON, THOMAS]  
**Sent:** 4/21/2016 9:04:34 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Bussard, David [Bussard.David@epa.gov]  
**CC:** Jinot, Jennifer [Jinot.Jennifer@epa.gov]; Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** FW: URGENT! FW: Interagency review comments on formaldehyde in composite wood products (CWPs) rule  
**Attachments:** EO 12866\_13563 EPA Formaldehyde 04-20-16.docx; RIN2070-AJ44\_EO12866\_Formaldehyde\_FRM\_EA\_2016-03-24.docx; RIN2070-AJ44\_EO12866\_Formaldehyde\_FRM\_FRdocument\_2016-03-11.docx

**Importance:** High

I have attempted to answer all of the questions but there is one for Barbara (#47) and one for Ravi (#23).

For several, I have included comments and statements back to OPPT. If you have input on those, please share it within NCEA

Please review, advise and keep me in the loop.

OPPT and OSP will likely want to know our timeline for responding.

Thanks,  
Tom

---

**From:** Cuje, Jace  
**Sent:** Thursday, April 21, 2016 12:58 PM  
**To:** Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Cc:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Bateson, Thomas <Bateson.Thomas@epa.gov>; Jinot, Jennifer <Jinot.Jennifer@epa.gov>; Berner, Ted <Berner.Ted@epa.gov>; McQueen, Jacqueline <McQueen.Jacqueline@epa.gov>  
**Subject:** URGENT! FW: Interagency review comments on formaldehyde in composite wood products (CWPs) rule  
**Importance:** High

Barbara -- Good afternoon. Hope all's well with you and NCEA.

As I recall, we worked together on the Formaldehyde in CWPs final rule after Bob Sonawane (per his discussion with David) designated you as the NCEA representative, replacing him as a workgroup member. Accordingly, forwarding the below thread and requesting your assistance in responding to OPPT.

## Deliberative Process / Ex. 5

I propose that you consider the questions and timing **within NCEA** and reply to me ASAP with your preferred path forward ... we can proceed from there. Alternatively, I can schedule an internal call to further discuss this request.

Please consider and reply/call with urgent questions, comments or concerns; otherwise, I'll await NCEA's preference and proceed accordingly.

Thanks in advance and best wishes. ~~~ Jace

---

**From:** Silagi, William  
**Sent:** Thursday, April 21, 2016 10:50 AM  
**To:** Cuje, Jace <Cuje.Jace@epa.gov>  
**Cc:** Winchester, Erik <Winchester.Erik@epa.gov>; Wheeler, Cindy <Wheeler.Cindy@epa.gov>  
**Subject:** Interagency review comments on formaldehyde in composite wood products rule

Jace,

As the ORD representative to OPPT's formaldehyde rule workgroup, I should have included you on the email below. As noted below, we have received interagency review comments on the formaldehyde rule. OCSP's policy is to respond to interagency review comments within 3 working days. Where a substantive response cannot be provided in that timeframe, the response should indicate how long we expect to need to provide a response (e.g., five additional working days).

As such, I have to provide a draft set of response for OPPT management review by Monday afternoon.

## Deliberative Process / Ex. 5

William Silagi  
Economic and Policy Analysis Branch  
U.S. EPA Office of Pollution Prevention and Toxics

---

**From:** Silagi, William  
**Sent:** Wednesday, April 20, 2016 4:48 PM  
**To:** Bateson, Thomas <Bateson.Thomas@epa.gov>; Jinot, Jennifer <Jinot.Jennifer@epa.gov>  
**Subject:** Interagency review comments on formaldehyde in composite wood products rule

OMB has provided the first set of interagency review comments on the formaldehyde rule. The comments, which address both the EA/RIA and the Federal Register document, are attached. I have also attached the EA and the FR notice, in case you would like to see the full context of the text the comments are addressing.

## Deliberative Process / Ex. 5

There is no set deadline for responding to the comments, but OCSP's policy is to respond as quickly as possible in order to keep the process moving and complete OMB review within the 90-day timeframe. I would appreciate it if you could give me some sense of when you think ORD may be able to provide input on responses.

OPPT is having a meeting with OP and OGC at 9 am tomorrow (Thursday, 4/21) in EPA East room 3371C to review the comments and discuss how to respond to them. You are welcome to attend that meeting, although it is by no means required. If you'd like to call in, the number is **Conference Line/Code / Ex. 6**

I'm also happy to have a separate phone call at some other time if you'd prefer to discuss the comments and potential responses that way.

Please let me know if you have any questions. Thanks for your continued support for this rulemaking activity.

Message

---

**From:** Bateson, Thomas [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29BFDDE020BF4E93B431B9A72D9D230F-BATESON, THOMAS]  
**Sent:** 9/14/2015 11:36:25 AM  
**To:** Bussard, David [Bussard.David@epa.gov]  
**CC:** Kopylev, Leonid [Kopylev.Leonid@epa.gov]  
**Subject:** RE: RAF panel - draft materials?  
**Attachments:** Proposed Case Study.docx

David,

# Deliberative Process / Ex. 5

Hope this helps.

Tom

---

**From:** Bussard, David  
**Sent:** Saturday, September 12, 2015 10:10 AM  
**To:** Bateson, Thomas  
**Subject:** RAF panel - draft materials?

Tom,

# Deliberative Process / Ex. 5

Thanks,

David A Bussard  
Director, Washington Division  
National Center for Environmental Assessment, NCEA  
ORD, USEPA

Message

---

**From:** Bateson, Thomas [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29BFDDE020BF4E93B431B9A72D9D230F-BATESON, THOMAS]  
**Sent:** 1/6/2017 10:26:59 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** Revised LHP hazard ID section  
**Attachments:** FormaldehydeTRdraft072616\_b (Bateson).docx

Hi Barbara and Andrew,

# Deliberative Process / Ex. 5

Tom

Thomas F. Bateson, ScD MPH  
Senior Epidemiologist  
Effects Identification & Characterization Group  
EPA/ORD/NCEA  
1200 Pennsylvania Ave. NW (Mail Code 8623P)  
Washington, DC 20460

Phone: 703-347-8570

Message

---

**From:** Bateson, Thomas [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29BFDDE020BF4E93B431B9A72D9D230F-BATESON, THOMAS]  
**Sent:** 6/26/2015 8:24:26 PM  
**To:** Kopylev, Leonid [Kopylev.Leonid@epa.gov]  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!  
**Attachments:** Case Study on Respiratory Effects (formaldehyde and asbestos) Draft June 26 2015 lk tb.docx

Probably.

Thanks.

I made some edits and give it back to you.

---

**From:** Kopylev, Leonid  
**Sent:** Friday, June 26, 2015 3:58 PM  
**To:** Bateson, Thomas  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!

Tom,

You mind must be on something else! Please see attached changes and suggestions.

Leonid

---

**From:** Bateson, Thomas  
**Sent:** Friday, June 26, 2015 3:32 PM  
**To:** Kopylev, Leonid  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!

Here it is. Please track and changes.

---

**From:** Kopylev, Leonid  
**Sent:** Friday, June 26, 2015 3:02 PM  
**To:** Bateson, Thomas  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!

Thanks -- can you send it as an attachment by any chance? For some reason sharepoint doesn't load now

---

**From:** Bateson, Thomas  
**Sent:** Friday, June 26, 2015 12:44 PM  
**To:** Kopylev, Leonid  
**Subject:** I revised the RAF case-study. Please review and revise if needed. Thanks!

**Deliberative Process / Ex. 5**

Message

---

**From:** Bateson, Thomas [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29BFDDE020BF4E93B431B9A72D9D230F-BATESON, THOMAS]  
**Sent:** 6/26/2015 7:32:07 PM  
**To:** Kopylev, Leonid [Kopylev.Leonid@epa.gov]  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!  
**Attachments:** Case Study on Respiratory Effects (formaldehyde and asbestos) Draft June 26 2015.docx

Here it is. Please track and changes.

---

**From:** Kopylev, Leonid  
**Sent:** Friday, June 26, 2015 3:02 PM  
**To:** Bateson, Thomas  
**Subject:** RE: I revised the RAF case-study. Please review and revise if needed. Thanks!

Thanks -- can you send it as an attachment by any chance? For some reason sharepoint doesn't load now

---

**From:** Bateson, Thomas  
**Sent:** Friday, June 26, 2015 12:44 PM  
**To:** Kopylev, Leonid  
**Subject:** I revised the RAF case-study. Please review and revise if needed. Thanks!

## Deliberative Process / Ex. 5

Message

---

**From:** Bateson, Thomas [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29BFDDE020BF4E93B431B9A72D9D230F-BATESON, THOMAS]  
**Sent:** 10/27/2016 2:37:44 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** RE: Revised URT cancer epi section  
**Attachments:** FormaldehydeTRdraft072616\_a (Bateson).docx

I just opened it and it seemed fine. Here it is again.

Tom

---

**From:** Glenn, Barbara  
**Sent:** Thursday, October 27, 2016 10:33 AM  
**To:** Bateson, Thomas <Bateson.Thomas@epa.gov>  
**Cc:** Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** RE: Revised URT cancer epi section

Hi Tom,  
I couldn't open the document – the message says it is corrupted. Could you send it to me again?

---

**From:** Bateson, Thomas  
**Sent:** Monday, October 24, 2016 11:37 AM  
**To:** Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Cc:** Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** Revised URT cancer epi section

Hi Barbara,

# Deliberative Process / Ex. 5

Tom

Thomas F. Bateson, ScD MPH  
Senior Epidemiologist  
Effects Identification & Characterization Group  
EPA/ORD/NCEA  
1200 Pennsylvania Ave. NW (Mail Code 8623P)  
Washington, DC 20460

Phone: 703-347-8570





Message

---

**From:** Cooper, Glinda [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=72C2E0A2283F42CC8F8CF3B22387505E-COOPER, GLINDA]  
**Sent:** 5/7/2016 2:05:12 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** fixing missing references  
**Attachments:** FormaldehydeTRdraft050616-gsc.docx

# Deliberative Process / Ex. 5

Glinda S. Cooper, PhD  
Senior Epidemiologist  
US Environmental Protection Agency

phone: 703-347-8636  
fax: 703-347-8689  
email: [cooper.glinda@epa.gov](mailto:cooper.glinda@epa.gov)

Mailing address: 1200 Pennsylvania Ave NW (8601P), Washington, DC 20460  
Courier delivery: Two Potomac Yard (North Building) N-8315  
2733 S. Crystal Drive, Arlington, VA 22202

Message

---

**From:** Cooper, Glinda [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=72C2E0A2283F42CC8F8CF3B22387505E-COOPER, GLINDA]  
**Sent:** 9/2/2015 8:30:16 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** Ch 2 edits - our friend formaldehyde  
**Attachments:** FormaldehydeTRdraft073015.docx

# Deliberative Process / Ex. 5

Or attached, if you want to peek

Glinda

Glinda S. Cooper, PhD  
Senior Epidemiologist  
US Environmental Protection Agency

phone: 703-347-8636  
fax: 703-347-8689  
email: [cooper.glinda@epa.gov](mailto:cooper.glinda@epa.gov)

Mailing address: 1200 Pennsylvania Ave NW (8601P), Washington, DC 20460  
Courier delivery: Two Potomac Yard (North Building) N-8315  
2733 S. Crystal Drive, Arlington, VA 22202

Message

---

**From:** Cooper, Glinda [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=72C2E0A2283F42CC8F8CF3B22387505E-COOPER, GLINDA]  
**Sent:** 6/18/2015 8:49:07 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** Assessment Introduction  
**Attachments:** IntroMethods\_051915-gsc.docx

## Deliberative Process / Ex. 5

Glinda S. Cooper, PhD  
Senior Epidemiologist  
US Environmental Protection Agency

phone: 703-347-8636  
fax: 703-347-8689  
email: [cooper.glinda@epa.gov](mailto:cooper.glinda@epa.gov)

Mailing address: 1200 Pennsylvania Ave NW (8601P), Washington, DC 20460  
Courier delivery: Two Potomac Yard (North Building) N-8315  
2733 S. Crystal Drive, Arlington, VA 22202

## Appointment

---

**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/21/2015 3:45:40 PM  
**To:** Fritz, Jason [Fritz.Jason@epa.gov]; Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Caldwell, Jane [Caldwell.Jane@epa.gov]; Sonawane, Bob [Sonawane.Bob@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**CC:** Keshava, Nagalakshmi [Keshava.Nagu@epa.gov]  
**BCC:** DCRoomPYN7771-North/ORD-NCEA-DC [DCRoomPYN7771@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; **Personal Privacy / Ex. 6** <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** Modes of action for Lymphoma revised draft 051515.docx; Appendix 1 lhp moa 051515.docx  
**Location:** DCRoomPYN7771-North/ORD-NCEA-DC  
  
**Start:** 5/28/2015 1:00:00 PM  
**End:** 5/28/2015 5:00:00 PM  
**Show Time As:** Free

Hello everyone,

# Deliberative Process / Ex. 5



Modes of action for  
Lymphoma revis...

For reference, I am also attaching the Appendix which was provided by Jane to accompany this revised draft. This is FYI and may facilitate review/understanding of the MOA synthesis, but we will not be going over this section during the course of this markup meeting.



Appendix 1 lhp  
moa 051515.docx

Thanks, and we look forward to a constructive discussion next week!  
Jason Fritz, TPWG co-chair

Call-in and abode connect info:

**Conference Line/Code / Ex. 6**

## Appointment

---

**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/28/2015 7:00:28 PM  
**To:** Fritz, Jason [Fritz.Jason@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Rayhan, Sayeed [Rayhan.Sayeed@epa.gov]  
**BCC:** DCRoomPYN7661-South/ORD-NCEA-DC [DCRoomPYN7661@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; **Personal Privacy / Ex. 6** <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** Modes of action for Lymphoma revised draft 051515\_JF.docx; Modes of action for Lymphoma revised draft BRS May 27. late night.docx; Appendix 1 lhp moa 051515.docx; 28 May 2015 FA LHP MOA Parking lot.docx  
**Location:** DCRoomPYN7661-South/ORD-NCEA-DC  
**Start:** 6/2/2015 7:30:00 PM  
**End:** 6/2/2015 9:00:00 PM  
**Show Time As:** Busy

Meeting #2 of the day, if necessary....

Hello super-number-one-best-dragon-force-strike-team-alpha members!

Yeah, okay so the name could use some work.

This is largest block of time I could find on Tuesday that everyone had available for

**Deliberative Process / Ex. 5**

Deliberative Process / Ex. 5

I will schedule a second meeting for the afternoon, in case we need it...

Thanks!

NOTE: a track changes draft from Bob has also been attached. Please do not cite, share, circulate or quote any of these documents with others.

Jf



28 May 2015 FA  
LHP MOA Parkin...



Appendix 1 lhp  
moa 051515.docx



Modes of action for  
Lymphoma revis...



Modes of action for  
Lymphoma revis...

Call-in and abode connect info:

**Conference Line/Code / Ex. 6**

## Appointment

---

**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/28/2015 6:45:54 PM  
**To:** Fritz, Jason [Fritz.Jason@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Rayhan, Sayeed [Rayhan.Sayeed@epa.gov]  
**BCC:** DCRoomPYN7661-South/ORD-NCEA-DC [DCRoomPYN7661@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; **Conference Line/Code / Ex. 6** <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** 28 May 2015 FA LHP MOA Parking lot.docx; Appendix 1 lhp moa 051515.docx; Modes of action for Lymphoma revised draft BRS May 27. late night.docx; Modes of action for Lymphoma revised draft 051515\_JF.docx  
**Location:** DCRoomPYN7661-South/ORD-NCEA-DC  
**Start:** 6/2/2015 1:00:00 PM  
**End:** 6/2/2015 2:30:00 PM  
**Show Time As:** Busy

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28 May 2015 FA  
LHP MOA Parkin...



Appendix 1 lhp  
moa 051515.docx



Modes of action for  
Lymphoma revis...



Modes of action for  
Lymphoma revis...

Call-in and abode connect info:

**Conference Line/Code / Ex. 6**

<https://epa.connectsolutions.com/tpwg/>

Message

---

**From:** Caldwell, Jane [Caldwell.Jane@epa.gov]  
**Sent:** 5/15/2015 9:34:53 PM  
**To:** Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Fritz, Jason [Fritz.Jason@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Sonawane, Bob [Sonawane.Bob@epa.gov]  
**Subject:** Here is the formaldehyde section and the accompanying appendix  
**Attachments:** Modes of action for Lymphoma revised draft 051515.docx; Appendix 1 lhp moa 051515.docx

Dear All,

As promised, here is a rewritten formaldehyde section and accompanying appendix.

**Deliberative Process / Ex. 5**

# Deliberative Process / Ex. 5

Have a nice weekend! I intend not to work on this one – unlike last weekend.

Jane Caldwell



Message

---

**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 3/17/2017 8:30:19 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** Re: URT MOA  
**Attachments:** FormaldehydeTRdraft072616\_a\_17 Mar\_JF.docx

Heya,

I wasn't able to open and modify the TR draft from the SharePoint website this time: could be this loaner laptop (and some sharepoint permissions issues) or problems with OWA access today, I don't know. I was able to download the draft, and make changes in track mode, which is not ideal. I've attached that draft here, and also uploaded it to the sharepoint folder "tracking changes from authors" on your formaldehyde site.

**Deliberative Process / Ex. 5**

# Deliberative Process / Ex. 5

Thanks,  
jf

---

**From:** Kraft, Andrew  
**Sent:** Thursday, March 16, 2017 5:00 PM  
**To:** Fritz, Jason  
**Cc:** Glenn, Barbara  
**Subject:** URT MOA

Hi Jason,

# Deliberative Process / Ex. 5

Thanks, and just let us know what you couldn't get to when you have to stop and head out of town!

-Andrew

P.S.: work in the sharepoint version (TR draft "a" on the main sharepoint page under "current assessment drafts" [no subfolder]):

[https://usepa.sharepoint.com/sites/ORD\\_Work/formaldehyde/SitePages/Home.aspx](https://usepa.sharepoint.com/sites/ORD_Work/formaldehyde/SitePages/Home.aspx)

## Appointment

---

**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/28/2015 7:00:32 PM  
**To:** Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Rayhan, Sayeed [Rayhan.Sayeed@epa.gov]  
**BCC:** DCRoomPYN7661-South/ORD-NCEA-DC [DCRoomPYN7661@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; [Conference Line/Code / Ex. 6]https://epa.connectsolutions.com/tpwg/  
**Attachments:** Modes of action for Lymphoma revised draft 051515\_JF.docx; Modes of action for Lymphoma revised draft BRS May 27. late night.docx; Appendix 1 lhp moa 051515.docx; 28 May 2015 FA LHP MOA Parking lot.docx  
**Location:** DCRoomPYN7661-South/ORD-NCEA-DC  
**Start:** 6/2/2015 7:30:00 PM  
**End:** 6/2/2015 9:00:00 PM  
**Show Time As:** Tentative

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Deliberative Process / Ex. 5

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Thanks!

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Jf



28 May 2015 FA  
LHP MOA Parkin...



Appendix 1 lhp  
moa 051515.docx



Modes of action for  
Lymphoma revis...



Modes of action for  
Lymphoma revis...

Call-in and abode connect info:

[Conference Line/Code / Ex. 6]https://epa.connectsolutions.com/tpwg/

## Appointment

---

**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/28/2015 6:45:59 PM  
**To:** Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Rayhan, Sayeed [Rayhan.Sayeed@epa.gov]  
**BCC:** DCRoomPYN7661-South/ORD-NCEA-DC [DCRoomPYN7661@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; **Conference Line/Code / Ex. 6** <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** 28 May 2015 FA LHP MOA Parking lot.docx; Appendix 1 lhp moa 051515.docx; Modes of action for Lymphoma revised draft BRS May 27. late night.docx; Modes of action for Lymphoma revised draft 051515\_JF.docx  
**Location:** DCRoomPYN7661-South/ORD-NCEA-DC  
**Start:** 6/2/2015 1:00:00 PM  
**End:** 6/2/2015 2:30:00 PM  
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28 May 2015 FA  
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**Conference Line/Code / Ex. 6**

<https://epa.connectsolutions.com/tpwg/>

## Appointment

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**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/26/2015 7:33:47 PM  
**CC:** Keshava, Nagalakshmi [Keshava.Nagu@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; [Conference Line/Code / Ex. 6](#); <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** Modes of action for Lymphoma revised draft 051515.docx; Appendix 1 lhp moa 051515.docx  
**Location:** DCRoomPYN7771-North/ORD-NCEA-DC  
  
**Start:** 5/28/2015 1:00:00 PM  
**End:** 5/28/2015 5:00:00 PM  
**Show Time As:** Tentative

Hello everyone,

# Deliberative Process / Ex. 5



Modes of action for  
Lymphoma revis...

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Appendix 1 lhp  
moa 051515.docx

Thanks, and we look forward to a constructive discussion next week!  
Jason Fritz, TPWG co-chair

Call-in and abode connect info:

[Conference Line/Code / Ex. 6](#) <https://epa.connectsolutions.com/tpwg/>

## Appointment

---

**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/21/2015 3:58:57 PM  
**To:** Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Caldwell, Jane [Caldwell.Jane@epa.gov]; Sonawane, Bob [Sonawane.Bob@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**BCC:** DCRoomPYN7771-North/ORD-NCEA-DC [DCRoomPYN7771@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; Conference Line/Code / Ex. 6; <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** Modes of action for Lymphoma revised draft 051515.docx; Appendix 1 lhp moa 051515.docx  
**Location:** DCRoomPYN7771-North/ORD-NCEA-DC  
  
**Start:** 5/28/2015 1:00:00 PM  
**End:** 5/28/2015 5:00:00 PM  
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Call-in and abode connect info:

Conference Line/Code / Ex. 6 <https://epa.connectsolutions.com/tpwg/>

## Appointment

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**From:** Fritz, Jason [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F8D42341BD2241598226069F9623074A-FRITZ, JASON]  
**Sent:** 5/21/2015 3:45:45 PM  
**To:** Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Caldwell, Jane [Caldwell.Jane@epa.gov]; Sonawane, Bob [Sonawane.Bob@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**BCC:** DCRoomPYN7771-North/ORD-NCEA-DC [DCRoomPYN7771@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion  
**Attachments:** Modes of action for Lymphoma revised draft 051515.docx; Appendix 1 lhp moa 051515.docx  
**Location:** DCRoomPYN7771-North/ORD-NCEA-DC  
**Start:** 5/28/2015 1:00:00 PM  
**End:** 5/28/2015 5:00:00 PM  
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Hello everyone,

# Deliberative Process / Ex. 5



Modes of action for  
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Appendix 1 lhp  
moa 051515.docx

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Jason Fritz, TPWG co-chair

## Appointment

---

**From:** Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Sent:** 10/25/2016 1:31:31 PM  
**To:** Birchfield, Norman [Birchfield.Norman@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Schlosser, Paul [Schlosser.Paul@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**Subject:** Formaldehyde: Check in on BBDR text  
**Attachments:** Ravi Revised Main.docx  
**Location:** DCRoomPYS11731-Capital  
  
**Start:** 11/3/2016 8:00:00 PM  
**End:** 11/3/2016 9:00:00 PM  
**Show Time As:** Busy

Call in no. **Personal Privacy / Ex. 6**

Purpose: to discuss the attached text provided by Ravi (Ravi gets back Nov 7<sup>th</sup>)



Ravi Revised  
Main.docx



## Appointment

---

**From:** Kavlock, Robert [Kavlock.Robert@epa.gov]  
**Sent:** 4/26/2016 2:09:02 PM  
**To:** Kavlock, Robert [Kavlock.Robert@epa.gov]; Olden, Kenneth [Olden.Kenneth@epa.gov]; Vandenberg, John [Vandenberg.John@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]; Flowers, Lynn [Flowers.Lynn@epa.gov]; Perovich, Gina [Perovich.Gina@epa.gov]; Gwinn, Maureen [gwinn.maureen@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Kadeli, Lek [Kadeli.Lek@epa.gov]; Deener, Kathleen [Deener.Kathleen@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]; Mazur, Sarah [Mazur.Sarah@epa.gov]  
**CC:** IRIS Calendar [IRIS\_Calendar@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Corona, Elizabeth [Corona.Elizabeth@epa.gov]

**Subject:** Prebrief for Monthly IRIS Meeting - materials added

**Attachments:** Kavlock\_Apr2016\_bckgrnd.docx; HCHOBriefKavlock042816.pptx; IRIS6mo-2k16-05.doc; Kavlock BaP update\_4-26-2016-cleancopy.docx

**Location:** 41213 RRB; call-in: Conference Line/Code / Ex. 6

**Start:** 4/28/2016 7:00:00 PM

**End:** 4/28/2016 8:00:00 PM

**Show Time As:** Busy

**Recurrence:** Monthly  
the last Thursday of every 1 month(s) from 3:00 PM to 4:00 PM



Kavlock\_Apr201...



HCHOBriefKavlo...



IRIS6mo-2k16-0...



Kavlock BaP  
update\_4-26-201...

## Appointment

---

**From:** Fritz, Jason [Fritz.Jason@epa.gov]  
**Sent:** 5/28/2015 7:00:36 PM  
**To:** Fritz, Jason [Fritz.Jason@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Rayhan, Sayeed [Rayhan.Sayeed@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; Conference Line/Code / Ex. 6 <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** Modes of action for Lymphoma revised draft 051515\_JF.docx; Modes of action for Lymphoma revised draft BRS May 27. late night.docx; Appendix 1 lhp moa 051515.docx; 28 May 2015 FA LHP MOA Parking lot.docx  
**Location:** DCRoomPYN7661-South/ORD-NCEA-DC  
**Start:** 6/2/2015 7:30:00 PM  
**End:** 6/2/2015 9:00:00 PM  
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Jf



28 May 2015 FA  
LHP MOA Parkin...



Appendix 1 lhp  
moa 051515.docx



Modes of action for  
Lymphoma revis...



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Call-in and abode connect info:

Conference Line/Code / Ex. 6

<https://epa.connectsolutions.com/tpwg/>

## Appointment

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**From:** Fritz, Jason [Fritz.Jason@epa.gov]  
**Sent:** 5/28/2015 6:46:03 PM  
**To:** Fritz, Jason [Fritz.Jason@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Rayhan, Sayeed [Rayhan.Sayeed@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; **Conference Line/Code / Ex. 6** <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** 28 May 2015 FA LHP MOA Parking lot.docx; Appendix 1 lhp moa 051515.docx; Modes of action for Lymphoma revised draft BRS May 27. late night.docx; Modes of action for Lymphoma revised draft 051515\_JF.docx  
**Location:** DCRoomPYN7661-South/ORD-NCEA-DC  
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**Sent:** 5/21/2015 3:58:57 PM  
**To:** Fritz, Jason [Fritz.Jason@epa.gov]; Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Caldwell, Jane [Caldwell.Jane@epa.gov]; Sonawane, Bob [Sonawane.Bob@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**Subject:** FA LHP MOA draft markup discussion; Conference Line/Code / Ex. 6 <https://epa.connectsolutions.com/tpwg/>  
**Attachments:** Modes of action for Lymphoma revised draft 051515.docx; Appendix 1 lhp moa 051515.docx  
**Location:** DCRoomPYN7771-North/ORD-NCEA-DC  
**Start:** 5/28/2015 1:00:00 PM  
**End:** 5/28/2015 5:00:00 PM  
**Show Time As:** Free

Hello everyone,

# Deliberative Process / Ex. 5



Modes of action for  
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Appendix 1 lhp  
moa 051515.docx

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Jason Fritz, TPWG co-chair

Call-in and abode connect info:

Conference Line/Code / Ex. 6 <https://epa.connectsolutions.com/tpwg/>

## Appointment

---

**From:** Dishaw, Laura [Dishaw.Laura@epa.gov]  
**Sent:** 4/12/2018 5:27:46 PM  
**To:** Dishaw, Laura [Dishaw.Laura@epa.gov]; Luke, April [Luke.April@epa.gov]; Thayer, Kris [thayer.kris@epa.gov]; Shams, Dahnish [Shams.Dahnish@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Radke-Farabaugh, Elizabeth [radke-farabaugh.elizabeth@epa.gov]; Arzuaga, Xabier [Arzuaga.Xabier@epa.gov]; Kopylev, Leonid [Kopylev.Leonid@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Blessinger, Todd [blessinger.todd@epa.gov]; Wheeler, Matthew [wheeler.matthew@epa.gov]; Wang, Lily (Lihong) [wang.lily@epa.gov]; Morozov, Viktor [Morozov.Viktor@epa.gov]; Davis, Allen [Davis.Allen@epa.gov]; Gift, Jeff [Gift.Jeff@epa.gov]; Mezencev, Roman [mezencev.roman@epa.gov]; Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]

**Subject:** NAS workshops  
**Attachments:** NAS-IRISreport.pdf; NAS mechanistic comments and workshop considerations  
**Location:** DCRoomRRB51109-1; RTP-B230-Max20-NCEA/RTP-Bldg-B

**Start:** 4/18/2018 12:30:00 PM  
**End:** 4/18/2018 1:30:00 PM  
**Show Time As:** Busy

### Call in info (USE PHONE LINE FOR AUDIO):

DC:

RTP:

Conf ID:

### Optional (only for sharing screens if it is helpful)

→ [Join Skype Meeting](#)

Trouble Joining? [Try Skype Web App](#)

[Help](#)

---

We will meet to discuss ideas for the 2018 NAS workshops.

Attached are the NAS report from the "Progress Toward Transforming the Integrated Risk Information System (IRIS) Program: A 2018 Evaluation" meeting and an email from Ravi with thoughts on possible topics.

## Appointment

---

**From:** Radke-Farabaugh, Elizabeth [radke-farabaugh.elizabeth@epa.gov]  
**Sent:** 4/13/2018 1:30:42 PM  
**To:** Radke-Farabaugh, Elizabeth [radke-farabaugh.elizabeth@epa.gov]; Arzuaga, Xabier [Arzuaga.Xabier@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]; Dishaw, Laura [Dishaw.Laura@epa.gov]; Gibbons, Catherine [Gibbons.Catherine@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Hogan, Karen [Hogan.Karen@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Luke, April [Luke.April@epa.gov]; Nichols, Jennifer [Nichols.Jennifer@epa.gov]; Owens, Beth [Owens.Beth@epa.gov]; Thayer, Kris [thayer.kris@epa.gov]; Woodall, George [Woodall.George@epa.gov]

**Subject:** Handbook meeting

**Attachments:** Protocol template and IAP meeting; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment; Untitled Attachment

**Location:** DCRoomRRB71257-NCEA16pp;

**Conference Line/Code / Ex. 6**

**Start:** 5/1/2018 1:00:00 PM

**End:** 5/1/2018 2:00:00 PM

**Show Time As:** Busy

**Recurrence:** Weekly  
every Tuesday from 9:00 AM to 10:00 AM

This seems to be an often open spot on our calendars, so I'm blocking it off through July. We can cancel or move them as needed. Maybe we'll be able to use our regular meetings for other topics some of the time.

Adobe connect link if needed:

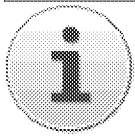
**Conference Line/Code / Ex. 6**

## Appointment

---

**From:** Lidka Maslankiewicz/RIVM/NL [lidka.maslankiewicz@rivm.nl]  
**Sent:** 4/9/2018 12:29:58 PM  
**To:** Lidka Maslankiewicz/RIVM/NL [lidka.maslankiewicz@rivm.nl]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Paul Janssen/RIVM/NL [paul.janssen@rivm.nl]; Theo Vermeire/RIVM/NL [theo.vermeire@rivm.nl]  
**Subject:** Information Update - Description has changed: Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))  
**Attachments:** ATT00001.htm; c181708.ics  
**Start:** 5/9/2018 1:00:00 PM  
**End:** 5/9/2018 2:30:00 PM  
**Show Time As:** Busy

**Recurrence:** (none)



### Information Update - Description has changed: Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))

05/09/2018 -

No Location Information

Lidka Maslankiewicz has sent updated information; description has changed

Required: glenn.barbara@epa.gov, Kraft.Andrew@epa.gov, Paul Janssen/RIVM/NL@RIVM, Theo Vermeire/RIVM/NL@RIVM

## Description

### Agenda:

1. Round of mutual introduction
2. Presentation of US EPA and NL ongoing activities on formaldehyde risk assessment.
3. NL questions on 2010 draft IRIS toxicological review on formaldehyde:
  - Are there any new developments in the process at EPA of evaluating formaldehyde?
  - Would it be possible for us to use the data and concept, with agreed referencing?
  - Do you plan any additional modelling to be done for deriving the unit risks from the NCI-cohort data, according to the advice from National Research Council?
  - Do you plan to derive unit risk derived from animal data?
4. AOB

**Please, call:**

**Personal Matters / Ex. 6**



Agenda:

1. Round of mutual introduction
2. Presentation of US EPA and NL ongoing activities on formaldehyde risk assessment.
3. NL questions on 2010 draft IRIS toxicological review on formaldehyde:
  - Are there any new developments in the process at EPA of evaluating formaldehyde?
  - Would it be possible for us to use the data and concept, with agreed referencing?
  - Do you plan any additional modelling to be done for deriving the unit risks from the NCI-cohort data, according to the advice from National Research Council?
  - Do you plan to derive unit risk derived from animal data?
4. AOB

**Please, call:**

**Personal Matters / Ex. 6**

## Appointment

---

**From:** Lidka Maslankiewicz/RIVM/NL [lidka.maslankiewicz@rivm.nl]  
**To:** Lidka Maslankiewicz/RIVM/NL [lidka.maslankiewicz@rivm.nl]; glenn.barbara@epa.gov; Kraft.Andrew@epa.gov; Paul Janssen/RIVM/NL [paul.janssen@rivm.nl]; Theo Vermeire/RIVM/NL [theo.vermeire@rivm.nl]

**Subject:** Discussion on and formaldehyde assessment (IRIS Toxicological Review of Formaldehyde (Inhalation))

**Start:** 5/9/2018 1:00:00 PM

**End:** 5/9/2018 2:30:00 PM

**Show Time As:** Tentative

**Recurrence:** (none)

### Agenda:

1. Round of mutual introduction
2. Presentation of US EPA and NL ongoing activities on formaldehyde risk assessment.
3. NL questions on 2010 draft IRIS toxicological review on formaldehyde:
  - Are there any new developments in the process at EPA of evaluating formaldehyde?
  - Would it be possible for us to use the data and concept, with agreed referencing?
  - Do you plan any additional modelling to be done for deriving the unit risks from the NCI-cohort data, according to the advice from National Research Council?
  - Do you plan to derive unit risk derived from animal data?

4. AOB

Please, call:

[Conference Line/Code / Ex. 6]

Appointment

---

**From:** Orme-Zavaleta, Jennifer [Orme-Zavaleta.Jennifer@epa.gov]  
**Sent:** 1/22/2018 6:38:17 PM  
**To:** Orme-Zavaleta, Jennifer [Orme-Zavaleta.Jennifer@epa.gov]; Rodan, Bruce [rodan.bruce@epa.gov]; Yamada, Richard (Yujiro) [yamada.richard@epa.gov]; Fleming, Megan [Fleming.Megan@epa.gov]; Christian, Megan [Christian.Megan@epa.gov]; Kuhn, Kevin [Kuhn.Kevin@epa.gov]; Bahadori, Tina [Bahadori.Tina@epa.gov]  
**CC:** Vandenberg, John [Vandenberg.John@epa.gov]; Thayer, Kris [thayer.kris@epa.gov]; Lavoie, Emma [Lavoie.Emma@epa.gov]; Axelrad, Daniel [Axelrad.Daniel@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Mazza, Carl [Mazza.Carl@epa.gov]; Sasser, Erika [Sasser.Erika@epa.gov]; Rimer, Kelly [Rimer.Kelly@epa.gov]; Vasu, Amy [Vasu.Amy@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** FW: Meeting with ACC on Formaldehyde  
**Location:** 41213 RRB/via video to B249; call-in: Conference Line/Code / Ex. 6 Conference Line/Code / Ex. 6  
**Start:** 1/24/2018 7:00:00 PM  
**End:** 1/24/2018 8:00:00 PM  
**Show Time As:** Busy

-----Original Appointment-----

**From:** Gentry, Nathan **On Behalf Of** Orme-Zavaleta, Jennifer  
**Sent:** Tuesday, January 16, 2018 11:23 AM  
**To:** Orme-Zavaleta, Jennifer; Rodan, Bruce; Yamada, Richard (Yujiro); Fleming, Megan; Christian, Megan; Kuhn, Kevin; Bahadori, Tina  
**Cc:** Vandenberg, John; Thayer, Kris; Lavoie, Emma; Axelrad, Daniel; Ross, Mary; Bussard, David; Mazza, Carl; Sasser, Erika; Rimer, Kelly; Vasu, Amy  
**Subject:** Meeting with ACC on Formaldehyde  
**When:** Wednesday, January 24, 2018 2:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** 41213 RRB/via video to B249; call-in: Conference Line/Code / Ex. 6 Conference Line/Code / Ex. 6

**From:** White, Kimberly [mailto:Kimberly.White@americanchemistry.com]  
**Sent:** Monday, December 04, 2017 8:22 AM  
**To:** Orme-Zavaleta, Jennifer <Orme-Zavaleta.Jennifer@epa.gov>  
**Subject:** Follow-up

Dear Dr. Orme-Zavaleta,

Thank you for your initial response to my November 21<sup>st</sup> letter. Do you have availability for a 1 hour meeting in Washington, DC sometime during the week of January 22<sup>nd</sup> to discuss further?

Separately, I also wanted to alert you to a recently published article by Mundt et al. titled "Six years after the NRC Review of EPA's Draft IRIS Toxicological Review of Formaldehyde: Regulatory implications of new science in evaluating formaldehyde leukemogenicity". I have appended a copy of the in press version to this email and excerpted the abstract below.

+++++

Regul Toxicol Pharmacol. 2017 Nov 17. pii: S0273-2300(17)30363-X. doi: 10.1016/j.yrtph.2017.11.006. [Epub ahead of print]

**Six years after the NRC Review of EPA's Draft IRIS Toxicological Review of Formaldehyde: Regulatory implications of new science in evaluating formaldehyde leukemogenicity.**

Mundt KA<sup>1</sup>, Gentry PR<sup>2</sup>, Dell LD<sup>2</sup>, Rodricks JV<sup>2</sup>, Boffetta P<sup>3</sup>.

**Author information**

**Abstract**

Shortly after the International Agency for Research on Cancer (IARC) determined that formaldehyde causes leukemia, the United States Environmental Protection Agency (EPA) released its Draft IRIS Toxicological Review of Formaldehyde, also concluding that formaldehyde causes leukemia. Peer review of the EPA Draft IRIS Assessment by a National Academy of Science committee noted that "causal determinations are not supported by the narrative provided in the draft" [NRC 2011]. They offered recommendations for improving the IRIS review and identified several important research gaps. Over the six years since the NRC peer review, significant new science has been published. We identify and summarize key NRC recommendations and map them to this new science, including extended analysis of epidemiological studies, updates of earlier occupational cohort studies, toxicological experiments using a sensitive mouse strain, mechanistic studies examining the role of exogenous versus endogenous formaldehyde in bone marrow, and several critical reviews. With few exceptions, new findings are consistently negative, and integration of all available evidence challenges the earlier conclusions that formaldehyde causes leukemia. Given formaldehyde's commercial importance, environmental ubiquity and endogenous production, accurate hazard classification and risk evaluation of whether exposure to formaldehyde from occupational, residential and consumer products causes leukemia are critical.

**KEYWORDS:**

Epidemiology; Evidence integration; Hazard evaluation; Mechanistic studies; Regulatory science; Toxicology

++++  
++

Kind Regards,

Kimberly Wise White, Ph.D. | American Chemistry Council  
Senior Director, Chemical Products & Technology Division  
[Kimberly.White@americanchemistry.com](mailto:Kimberly.White@americanchemistry.com)  
700 2<sup>nd</sup> Street NE | Washington, DC | 20002  
O: (202) 249-6707 C: (202) 341-7602  
[www.americanchemistry.com](http://www.americanchemistry.com)

Message

---

**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 9/26/2017 9:45:56 PM  
**To:** D'Amico, Louis [DAmico.Louis@epa.gov]; Bahadori, Tina [Bahadori.Tina@epa.gov]; Thayer, Kris [thayer.kris@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: Draft response to ACC - latest formaldehyde letter  
**Attachments:** ACC FA Response\_Oct 2017\_draft1\_DBcmts.docx

Lou,

# Deliberative Process / Ex. 5

David

---

**From:** D'Amico, Louis  
**Sent:** Tuesday, September 26, 2017 5:29 PM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** Draft response to ACC - latest formaldehyde letter

Hi gang,

Take a look. First draft of a response to ACC. Incoming letter attached as well. Edits sooner rather than later would be greatly appreciated.

-Lou

Louis D'Amico, Ph.D.  
Assistant Center Director for Communications and Regulatory Support (Acting)  
National Center for Environmental Assessment | U.S. EPA - Office of Research and Development  
Mail Code 8601P | 1200 Pennsylvania Ave, NW | Washington, DC 20460  
Physical/Overnight Delivery Address: U.S. EPA | One Potomac Yard (South Building), S-11346 | 2777 S. Crystal Drive | Arlington, VA 22202

Office: 703-347-0344 | Mobile: 703-859-1719 | Fax: 703-347-8689 | email: [damico.louis@epa.gov](mailto:damico.louis@epa.gov)

Message

---

**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 3/17/2017 8:55:39 PM  
**To:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** RE: revised FALDH d-r  
**Attachments:** Main SCC d-r-03-06-17-VERY REVISEDakbg-rs\_all accepted\_DB.docx

Ravi,

# Deliberative Process / Ex. 5

David

---

**From:** Subramaniam, Ravi  
**Sent:** Tuesday, March 07, 2017 6:04 PM  
**To:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>  
**Subject:** revised FALDH d-r  
**Importance:** High

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.  
Room PYS-11782/ Ph: (703) 347-8606 (o); (571) 305-3601 (m)

Message

---

**From:** NCEA\_TSS [NCEA\_TSS@epa.gov]  
**Sent:** 4/21/2017 5:46:05 PM  
**To:** Cunningham, Taukecha [Cunningham.Taukecha@epa.gov]  
**CC:** Schaffner, Thomas [Schaffner.Thomas@epa.gov]; Walker, Lisa [Walker.Lisa@epa.gov]; Zwayer, Bette [zwayer.bette@epa.gov]; Tackett, Linda [Tackett.Linda@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Soto, Vicki [Soto.Vicki@epa.gov]; Konoza, Terri [Konoza.Terri@epa.gov]; NCEA\_TSS [NCEA\_TSS@epa.gov]  
**Subject:** Formaldehyde Tox Review Merged Part A & B (WP-40W) Read for Author Review (Due 4/21/17)  
**Attachments:** Formaldehyde Main Text - IRD.docx

Dear Taukecha,

# Deliberative Process / Ex. 5

Please let TSS know if you have any questions. Send any further correspondence on this request to [NCEA\\_TSS@epa.gov](mailto:NCEA_TSS@epa.gov).

Thank you,

Kathleen Bland

Technical Support Services  
Highlight Technologies, LLC contractor for U.S. EPA, NCEA  
26 W. Martin Luther King Ave, Rm A-G41  
Cincinnati, OH 45220

---

**From:** Cunningham, Taukecha  
**Sent:** Wednesday, March 29, 2017 5:31 PM  
**To:** Heing, Dan  
**Cc:** NCEA\_TSS; NCEA\_TSS\_SG; Schaffner, Thomas; Walker, Lisa; Zwayer, Bette; Tackett, Linda; Kraft, Andrew; Glenn, Barbara; Soto, Vicki; Konoza, Terri  
**Subject:** RE: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Dan,

Yes this is exactly what we need done and please feel to let us know if you have any other questions.

Thanks,

*Taukecha Cunningham  
Information Management Specialist  
U.S. EPA/ORD  
National Center for Environmental Assessment*

703-347-0294

[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Heing, Dan

**Sent:** Wednesday, March 29, 2017 5:28 PM

**To:** Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>

**Cc:** NCEA\_TSS <[NCEA\\_TSS@epa.gov](mailto:NCEA_TSS@epa.gov)>; NCEA\_TSS\_SG <[NCEA\\_TSS\\_SG@epa.gov](mailto:NCEA_TSS_SG@epa.gov)>; Schaffner, Thomas <[Schaffner.Thomas@epa.gov](mailto:Schaffner.Thomas@epa.gov)>; Walker, Lisa <[Walker.Lisa@epa.gov](mailto:Walker.Lisa@epa.gov)>; Zwayer, Bette <[zwayer.bette@epa.gov](mailto:zwayer.bette@epa.gov)>; Tackett, Linda <[Tackett.Linda@epa.gov](mailto:Tackett.Linda@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>; Konoza, Terri <[Konoza.Terri@epa.gov](mailto:Konoza.Terri@epa.gov)>

**Subject:** Re: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Taukecha,

Just to be clear, for TSS we are to carry out the following service tasks:

## Deliberative Process / Ex. 5

And for Editing, we are doing a light edit, which is a line-by-line scan to fix obvious spelling, grammar, and punctuation errors, correct typos and improper word spacing, correct inconsistencies in font size, and check Microsoft grammar flags for appropriateness and fix if no sentence restructuring is needed.

If our understanding is correct, then yes, we would meet the 4 week deadline (document completed and returned COB 4/21/17).

Please advise and thanks.

Dan

**Dan Heing** | *Project Manager*

Office 513.569.7725

Mobile 513.377.1130

[dheing@HighlightTech.com](mailto:dheing@HighlightTech.com) | [www.HighlightTech.com](http://www.HighlightTech.com)



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---

**From:** Cunningham, Taukecha

**Sent:** Wednesday, March 29, 2017 4:12 PM



To: Heing, Dan <Heing.Dan@epa.gov>

Cc: NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; Schaffner, Thomas <Schaffner.Thomas@epa.gov>; Walker, Lisa <Walker.Lisa@epa.gov>; Zwayer, Bette <zwayer.bette@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>

Subject: FW: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Dan,

Let's do a light edit and skip number 3, and we need the TOC creation and formatting, and do the globals last. We need all of the formatting with the exception of the globals. Will this help you meet the deadline?

Thanks,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*

703-347-0294

Cunningham.Taukecha@epa.gov

here are the tasks for Editing:

- |                                       |  |
|---------------------------------------|--|
| <input type="radio"/> Edit            | <input type="radio"/> Customized (specify in Special Instructions) |
| <input type="radio"/> Electronic Edit | <input type="radio"/> Light  |
| <input type="radio"/> Hard-Copy Edit  | <input type="radio"/> Grammar                                      |
| <input type="radio"/> Write           | <input type="radio"/> Style  |
|                                       | <input type="radio"/> Comprehensive                                |

Here are the tasks for work processing

Print Form

### ***NCEA Word Processing/Graphics Support Request***

Requestor(s):

Date Requested: 12/04/2015

Date Required:

Status: Final (camera ready)

Product type: Report

Stage: Final

OMIS Task #

NCEA-C-#

APM #

☒ Formatting (select file format below)

☐ Scan (select file format below)

#### Select requested formatting

(each step requires repagination and table of contents changes when done separately)

- ☐ Margins, footers, page numbering, create/format front matter
- ☐ Auto headings and captions, auto table of contents creation and formatting
- ☐ Format tables and figures (requires source files)
- ☐ Format text (globals, line spacing, etc.)
- ☐ Format appendices
- ☐ Abbreviation check
- ☐ Text-to-reference check (in-text vs. bibliography) (TSS)
- ☐ Bibliography verification and formatting (TIU)
- ☐ Full format (all of the above)

From: Heing, Dan

Sent: Wednesday, March 29, 2017 3:20 PM

To: Cunningham, Taukecha <Cunningham.Taukecha@epa.gov>

Cc: NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; Heing, Dan <Heing.Dan@epa.gov>;

Schaffner, Thomas <Schaffner.Thomas@epa.gov>; Walker, Lisa <Walker.Lisa@epa.gov>; Zwayer, Bette <zwayer.bette@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>  
**Subject:** FW: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule



Dear Taukecha,

# Deliberative Process / Ex. 5

Please advise concerning your priorities and our proposed service item adjustments.

Thanks

Dan Heing | *Project Manager*

Office 513.569.7725  Mobile 513.377.1130   
[dheing@HighlightTech.com](mailto:dheing@HighlightTech.com) | [www.HighlightTech.com](http://www.HighlightTech.com)



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---

**From:** Cunningham, Taukecha

**Sent:** Wednesday, March 29, 2017 11:32 AM

**To:** Heing, Dan <Heing.Dan@epa.gov>

**Cc:** NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; CI NCEA EDIT

<CI\_NCEA\_EDIT@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>; Zwayer, Bette <zwayer.bette@epa.gov>


**Subject:** RE: Formaldehyde Tox Review, Part a & b

Hi Dan,

# Deliberative Process / Ex. 5

Thank you,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*

703-347-0294 

[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Heing, Dan  
**Sent:** Wednesday, March 29, 2017 10:43 AM  
**To:** Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>  
**Cc:** NCEA\_TSS <[NCEA\\_TSS@epa.gov](mailto:NCEA_TSS@epa.gov)>; NCEA\_TSS\_SG <[NCEA\\_TSS\\_SG@epa.gov](mailto:NCEA_TSS_SG@epa.gov)>; CI NCEA EDIT <[CI\\_NCEA\\_EDIT@epa.gov](mailto:CI_NCEA_EDIT@epa.gov)>; Tackett, Linda <[Tackett.Linda@epa.gov](mailto:Tackett.Linda@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>; Konoza, Terri <[Konoza.Terri@epa.gov](mailto:Konoza.Terri@epa.gov)>; Zwayer, Bette <[zwayer.bette@epa.gov](mailto:zwayer.bette@epa.gov)>  
**Subject:** RE: Formaldehyde Tox Review, Part a & b

Dear Taukecha,

We are estimating that we will have the document finished and to you by COB, Wednesday, 5/17/17. Please let us know of any feedback you have on this schedule.

Thanks,

Dan Heing | *Project Manager*

Office 513.569.7725  Mobile 513.377.1130   
[dheing@HighlightTech.com](mailto:dheing@HighlightTech.com) | [www.HighlightTech.com](http://www.HighlightTech.com)



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---


**From:** NCEA\_TSS  
**Sent:** Tuesday, March 28, 2017 1:59 PM  
**To:** NCEA\_TSS\_SG <[NCEA\\_TSS\\_SG@epa.gov](mailto:NCEA_TSS_SG@epa.gov)>  
**Subject:** FW: Formaldehyde Tox Review, Part a & b

---

**From:** Cunningham, Taukecha  
**Sent:** Tuesday, March 28, 2017 1:59:24 PM (UTC-05:00) Eastern Time (US & Canada)  
**To:** NCEA\_TSS  
**Cc:** Glenn, Barbara; Soto, Vicki; Konoza, Terri; Zwayer, Bette; Kraft, Andrew  
**Subject:** RE: Formaldehyde Tox Review, Part a & b  
Hi Kathleen,

Yes you may format the headings and captions.

Thanks,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*  
  
703-347-0294  
[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Kraft, Andrew  
**Sent:** Tuesday, March 28, 2017 1:52 PM  
**To:** NCEA\_TSS <[NCEA\\_TSS@epa.gov](mailto:NCEA_TSS@epa.gov)>; Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>  
**Cc:** Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>; Konoza, Terri <[Konoza.Terri@epa.gov](mailto:Konoza.Terri@epa.gov)>; Zwayer, Bette <[zwayer.bette@epa.gov](mailto:zwayer.bette@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>  
**Subject:** RE: Formaldehyde Tox Review, Part a & b

Hi Kathleen,

Thank you so much for the information on how to make revisions after the tech edit- very helpful!

# Deliberative Process / Ex. 5

Thank you, and please let us know if you have any additional questions.  
-Andrew

---

**From:** NCEA\_TSS  
**Sent:** Tuesday, March 28, 2017 1:28 PM  
**To:** Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>  
**Cc:** Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>; Konoza, Terri <[Konoza.Terri@epa.gov](mailto:Konoza.Terri@epa.gov)>; Zwayer, Bette <[zwayer.bette@epa.gov](mailto:zwayer.bette@epa.gov)>  
**Subject:** Re: Formaldehyde Tox Review, Part a & b

Dear Taukecha,

We are currently working on the files that you sent and had a few questions:

# Deliberative Process / Ex. 5

Thank you,

Kathleen Bland

Technical Support Services  
Highlight Technologies, LLC contractor for U.S. EPA, NCEA  
26 W. Martin Luther King Ave, Rm A-G41  
Cincinnati, OH 45220

---

**From:** Cunningham, Taukecha  
**Sent:** Friday, March 24, 2017 4:14 PM  
**To:** NCEA\_TSS  
**Cc:** Kraft, Andrew; Glenn, Barbara; Soto, Vicki; Konoza, Terri; Zwayer, Bette  
**Subject:** FW: Formaldehyde Tox Review, Part a & b

Hello,

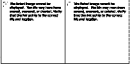
## Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

Please give us a date on when you will have the document completed.

Thank you,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*

703-347-0294   
[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Kraft, Andrew

**Sent:** Thursday, March 23, 2017 5:01 PM

**To:** Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>

**Cc:** Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>

**Subject:** Formaldehyde Tox Review, Part "b"

Hooray!

# CONTRACTOR SERVICES FORM

National Center for Environmental Assessment - General

NCEA Task No. Task 1 (4-17)

Author or Project Manager: Vicki Soto/Andrew Kraft/Barbara Glenn

**Title:** IRIS Toxicological Review of Formaldehyde

**Date Sent** 6/13/2018

**Time:**

**Date Due:**

**Time:**

## SERVICES NEEDED

Revisions		Edit-substantive		Convert file	
Reformat	X	Edit-mechanical			
Proofread	X	Reference check			

## ENCLOSURES

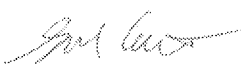
Electronic file		X			Journal/Book		Other: _____	
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## RETURN TO NCEA

Revised file		Edited file		CD(s)		Other: _____	
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**SPECIAL INSTRUCTIONS:** Please provide formatting and light tech edit of formaldehyde tox review and summary document. Please do iteratively and provide edited sections back for feedback. Please start with the summary document and then the tox review. For the summary document, please return after about 50 edited pages. Please take special care with tables, don't change layout for data. For tables with text, please adjust (if you can do quickly) to make them not so long. Reduce white space in document if possible. Please make sure tables/figures are numbered and callouts are correct. Highlight any callouts to appendices. Please HEROLink any unlinked citations. Communicate with Barbara and Andrew with questions.

## EPA Contacts:

Vicki Soto, WAM	Crystal Samuels, Alt. WAM	Melissa Revely-Wilson, PO –
Signature of Contractor 	Date: 6/27/18	Signature of PO/WAM Date:

# CONTRACTOR SERVICES FORM

National Center for Environmental Assessment - General

NCEA Task No. 001-17-001

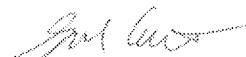
Group/Author or Project Manager: Jinot

## ESTIMATED HOURS & COST BY CONTRACTOR

	<b>PBI / Ex. 4</b>
Greg Carter – Project manager, technical review	
Penny Kellar – Senior editor, technical oversight	
Tara Hamilton – Senior editor	
Whitney Mitchell – Document production specialist	
Nicole Vetter – Librarian	
Katherine Helmick – Document production support	
Blake Riley – Document production support	

TOTAL ESTIMATED DIRECT COST

**PBI / Ex. 4**

Signature of Contractor	Date:	Signature of PO/WAM	Date:
	6/27/18		

### Assumptions

For this cost estimate ICF assumes that we will provide the bulleted tasks provided below, for both the summary document and the tox review: assumed roughly 840 pages combined. After roughly 50 pages, ICF will provide the edited document to EPA for review. Based on EPA's review, and from information gleaned from editing the first 50 pages, ICF will discuss with EPA the estimated LOE for the remainder of the document and will revise this cost estimate if appropriate.

After EPA approval of the approach taken for the first 50 pages, ICF will perform the below tasks iteratively, submitting sections (that will be decided upon with EPA) for review and feedback as they are completed.

### ICF Tasks

1. Complete tasks below on the first 50 pages of the Overview and submit to EPA for review and approval before proceeding with rest of Overview and the main document.
2. Keep title page.
3. Perform copyedit of the document (i.e., a very light edit looking only for gross errors).
4. Ensure headings are internally consistent and the styles (styles currently used in the document) are applied consistently throughout.



5. Number tables/figures sequentially within Preamble (Roman numerals), Executive Summary (ES-x), and Section (1-x, 2-x, etc.) by inserting captions (labels and numbers).
6. Ensure all table/figure/section callouts are present (typed in, not cross-referenced with Word). Highlight cross-references only if not already highlighted.
7. Table formatting
  - a. For tables with text, adjust column widths and use other similar, easily implemented solutions to shorten the length of the table. Do not edit or reformat otherwise.
  - b. Mark header rows.
  - c. Make font size consistent within table cells.
  - d. Do not apply styles to tables.
8. Figures
  - a. Make notes into a separate paragraph below the figure caption positioned to ensure that the reader knows the note is associated with the figure.
9. Update TOC/LOT/LOF
10. Check abbreviations.
  - a. Ensure abbreviations and acronyms used in the text appear in Abbreviations and Acronyms list and vice versa.
  - b. Change PECO to Populations, Exposures, Comparators, Outcomes throughout (i.e., eliminate use of abbreviation).
  - c. Ensure units are used appropriately (e.g., mL rather than ml)
11. LitCite any references that are not linked to HERO [if multiple references appear in master formaldehyde HERO library, flag citation in text for authors]
12. Remove all blank pages.
13. Remove extra spaces around greater-than and less-than signs [no spaces between the sign and number for single numbers (e.g., >9, <20) and for numbers on both sides of the sign, add hard spaces before and after the sign (e.g., x > 20)].
14. Ensure that “i.e.,” and “e.g.,” have commas
15. Ensure both opening and closing parentheses are used; e.g., (A), (B) (see Figure 1-11)
16. Obtain copyright permission if needed – see Figure 1-14.

### **LOE assumptions**

- Four minutes per page for reading the text, looking for gross errors in grammar etc. and checking cross references – 56 hours.
- 15 hours to perform activities related to LitCiting.
- 6 hours to retrieve copyright permissions.
- 10 hours per 100 pages to perform all other activities (primarily formatting) for main document – 70 hours.
- 20 hours per 100 pages to perform all other activities (primarily formatting) for overview document – 28 hours.
- 25 hours for QA reviews and management/oversight.
- 200 Total hours

### **Estimated Delivery to EPA**

First 50 pages of overview document – June 29, 2018

Overview document – July 13, 2018

Main document – August 3, 2018

Message

---

**From:** Shams, Dahnish [Shams.Dahnish@epa.gov]  
**Sent:** 4/18/2017 9:01:08 PM  
**To:** Birchfield, Norman [Birchfield.Norman@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** Deliberative Process / Ex. 5 TO for Formaldehyde  
**Attachments:** Deliberative Process / Ex. 5 Task Order XXX for Formaldehyde.docx

Hi Barbara/Norm/Andrew

**Deliberative Process / Ex. 5**

## **Deliberative Process / Ex. 5**

Tina and Mary are pushing to get these TO in and funded ASAP, so I'm doing my best to push these along. Let me know if you all have any questions.

## **Deliberative Process / Ex. 5**

Thanks!

Dahnish

Integrated Risk Information System (IRIS) Program  
National Center for Environmental Assessment  
Office of Research and Development, U.S. EPA  
O: (703) 347-0167

Message

---

**From:** Kellar, Penelope [Penelope.Kellar@icf.com]  
**Sent:** 6/21/2018 2:33:21 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Carter, Greg [Greg.Carter@icf.com]; Soto, Vicki [Soto.Vicki@epa.gov]  
**CC:** Samuels, Crystal [Samuels.Crystal@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

No problem!

**PENELOPE KELLAR** | Senior Technical Specialist | +1.919.293.1636 direct or main | [Penelope.Kellar@icf.com](mailto:Penelope.Kellar@icf.com)  
**ICF** | 2635 Meridian Parkway, Ste. 200, Durham, NC 27713 | +1.919.523.9041 mobile

---

**From:** Glenn, Barbara [mailto:Glenn.Barbara@epa.gov]  
**Sent:** Thursday, June 21, 2018 10:32 AM  
**To:** Kellar, Penelope <Penelope.Kellar@icf.com>; Carter, Greg <Greg.Carter@icf.com>; Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks. I think I misunderstood Greg's question. I thought he was asking us to send him the Endnote library downloaded from HERO. Sorry ☺

---

**From:** Kellar, Penelope [mailto:Penelope.Kellar@icf.com]  
**Sent:** Thursday, June 21, 2018 10:29 AM  
**To:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Carter, Greg <Greg.Carter@icf.com>; Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Not sure if Greg replied to this, but yes, we can access the library in HERO.  
Thanks!

**PENELOPE KELLAR** | Senior Technical Specialist | +1.919.293.1636 direct or main | [Penelope.Kellar@icf.com](mailto:Penelope.Kellar@icf.com)  
**ICF** | 2635 Meridian Parkway, Ste. 200, Durham, NC 27713 | +1.919.523.9041 mobile

---

**From:** Glenn, Barbara [mailto:Glenn.Barbara@epa.gov]  
**Sent:** Wednesday, June 20, 2018 5:56 PM  
**To:** Carter, Greg <Greg.Carter@icf.com>; Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Kellar, Penelope <Penelope.Kellar@icf.com>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Are you not able to download the references from HERO into an Endnote file? That would be the best way to get them. Tomorrow we can try to address this.

---

**From:** Carter, Greg [mailto:Greg.Carter@icf.com]  
**Sent:** Wednesday, June 20, 2018 5:48 PM  
**To:** Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kellar, Penelope <Penelope.Kellar@icf.com>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Sorry for the piecemeal questions (probably won't be the last one), but,

Can you provide the EndNote library for the document(s)?

gc

---

**From:** Soto, Vicki [<mailto:Soto.Vicki@epa.gov>]  
**Sent:** Wednesday, June 20, 2018 1:31 PM  
**To:** Carter, Greg <[Greg.Carter@icf.com](mailto:Greg.Carter@icf.com)>  
**Cc:** Samuels, Crystal <[Samuels.Crystal@epa.gov](mailto:Samuels.Crystal@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Kellar, Penelope <[Penelope.Kellar@icf.com](mailto:Penelope.Kellar@icf.com)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Greg – I'm so sorry for the delay. See my responses below....

Vicki

Barbara – one for you, but I think that you had asked that they close up space if possible.

---

**From:** Carter, Greg [<mailto:Greg.Carter@icf.com>]  
**Sent:** Tuesday, June 19, 2018 10:51 AM  
**To:** Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>  
**Cc:** Samuels, Crystal <[Samuels.Crystal@epa.gov](mailto:Samuels.Crystal@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Kellar, Penelope <[Penelope.Kellar@icf.com](mailto:Penelope.Kellar@icf.com)>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks for this Vicki,  
See below, in red, some requests for clarification.

gc

**From:** Soto, Vicki [<mailto:Soto.Vicki@epa.gov>]  
**Sent:** Wednesday, June 13, 2018 4:43 PM  
**To:** Carter, Greg <[Greg.Carter@icf.com](mailto:Greg.Carter@icf.com)>  
**Cc:** Samuels, Crystal <[Samuels.Crystal@epa.gov](mailto:Samuels.Crystal@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>  
**Subject:** work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Greg,

Attached is the work request form for Formaldehyde. Please look it over and let me know if I missed anything. Send me your "email" addresses and we will get you access to the files. I forgot to put "add line numbers" in the documents also. Format document as an Agency Review draft.

Thanks!  
Vicki

# Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

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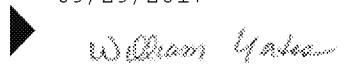
Vicki Soto | 202-564-3077 | [soto.vicki@epa.gov](mailto:soto.vicki@epa.gov)  
ORD/NCEA/IRISD

Mailing Address:

USEPA Headquarters | William Jefferson Clinton Building | 1200 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

Delivery Address:

USEPA Headquarters | William Jefferson Clinton Building | 1300 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

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3. ORDER NO. 0023		4. REQUISITION/REFERENCE NO. PR-ORD-17-01320			a. NAME OF CONSIGNEE  ORD NCEA PY1				
5. ISSUING OFFICE (Address correspondence to) CPOD  US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268					b. STREET ADDRESS US Environmental Protection Agency ORD NCEA 2777 S. Crystal Drive Two Potomac Yard (North Building)				
					c. CITY Arlington			d. STATE VA	e. ZIP CODE 22202
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a. NAME OF CONTRACTOR National Academy of Sciences					8. TYPE OF ORDER  <input type="checkbox"/> a. PURCHASE REFERENCE YOUR:    Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if anv. including delivery as indicated.				
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9. ACCOUNTING AND APPROPRIATION DATA See Schedule					10. REQUISITIONING OFFICE ORD OSA				
11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB								12. F.O.B. POINT Destination	
13. PLACE OF			14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 09/28/2018			16. DISCOUNT TERMS	
a. INSPECTION Destination		b. ACCEPTANCE Destination							
17. SCHEDULE (See reverse for Rejections)									
ITEM NO. (a)	SUPPLIES OR SERVICES (b)			QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)	
	DUNS Number: 041964057 TOCOR: VSOTO   Continued ...								
SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT			19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages) 	
	21. MAIL INVOICE TO:								
	a. NAME RTP Finance Center						\$999,061.00		
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$999,061.00		
	c. CITY Durham			d. STATE NC	e. ZIP CODE 27711				
22. UNITED STATES OF AMERICA BY (Signature) 					23. NAME (Typed) William Yates TITLE: CONTRACTING/ORDERING OFFICER				

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PAGE NO  
2

**IMPORTANT:** Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 09/29/2017	CONTRACT NO. EP-C-14-005	ORDER NO. 0023
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Admin Office: CPOD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: NWD Cincinnati OH 45268 Period of Performance: 09/29/2017 to 09/28/2018					
0001	Funding of NAS TO, External Peer Review of IRIS Toxicological Reviews, on contract EP-C-14-005.  Accounting Info: 17-18-C-262S000-401F84-2532-26A5C-1726 2SC714-001 BFY: 17 EFY: 18 Fund: C Budget Org: 262S000 Program (PRC): 401F84 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 17262SC714-001 Funding Flag: Complete Funded: <b>PBI / Ex. 4</b>				<b>PBI / Ex. 4</b>	
0002	Additional funding for NAS TO 23: Review of EPA Draft IRIS Assessments  Accounting Info: 17-18-C-262S000-401F84-2532-26A5C-1726 2SC714-002 BFY: 17 EFY: 18 Fund: C Budget Org: 262S000 Program (PRC): 401F84 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 17262SC714-002 Funding Flag: Complete Funded: <b>PBI / Ex. 4</b>				<b>PBI / Ex. 4</b>	

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OPTIONAL FORM 348 (Rev. 4/2005)  
Prescribed by GSA FAR (48 CFR) 53.213(f)

**NAS Task Order on the**  
***External Peer Review of EPA's Draft Integrated Risk Information System (IRIS)***  
***Toxicological Reviews***

---

**I. Purpose**

EPA requests the National Academies of Sciences, Engineering, and Medicine (NAS) conduct a scientific peer review(s) and develop a report(s) that, where possible, reflects a consensus view from the committee, on EPA's external review draft IRIS toxicological review(s). The NAS shall focus on whether the scientific literature on the chemical/substance was adequately evaluated by EPA, and whether appropriate methods were used to synthesize the scientific evidence and arrive at the conclusions.

**II. Background**

EPA's National Center Environmental Assessment (NCEA) supports the Agency's mission of protecting human health and the environment by identifying and characterizing the human health hazards of chemicals found in the environment. Health assessments developed by NCEA, such as the Integrated Risk Information System (IRIS) assessments, contain chemical-specific summaries of qualitative and quantitative health information in support of two steps of the risk assessment process (i.e., hazard identification and dose-response evaluation).

In Chapter 7 of the 2011 report, *Review of the Environmental Protection Agency's Draft IRIS Assessment of Formaldehyde*, the NAS provided EPA with recommendations for improving the IRIS assessment of formaldehyde and general comments on the IRIS assessment development process. The following bullets summarize the overall recommendations for the assessment development process outlined in that document:

- Editing to reduce the volume of text and address redundancy and inconsistency
- Describe more fully the methods of the assessment including search strategies, exclusion and inclusion criteria, and clear descriptions of the weight of evidence approaches
- Standardized evidence tables, removing long text descriptions of studies
- Evaluate critical studies using standardized approaches specific to the type of research (e.g., observational epidemiology, animal bioassay), and document the results.
- Provide expanded rationales with the selection of studies advanced for dose-response analysis, including an evaluation across candidate values using graphic displays
- Provide "strengthened, more integrative, and more transparent discussions of weight of evidence".



Since 2011, NCEA's human health assessments have evolved in response to recommendations provided by NAS.

### **III. Scope of Work**

Under this task order, the NAS shall convene two ad-hoc committees to independently review: (1) the draft IRIS Toxicological Review of Formaldehyde (Task 1); and (2) an upcoming draft IRIS Toxicological Review (Task 2). Committee members, with broad risk assessment and scientific experience, may overlap between the two ad-hoc committees. The description of the two (2) tasks to be performed under each peer review are listed below, each consisting of three (3) subtasks.

#### **Task 1 – Review of EPA's draft IRIS Toxicological Assessment of Formaldehyde (Inhalation)**

EPA requests that NAS perform an expert peer review of the draft IRIS Toxicological Review of Formaldehyde (Inhalation) to evaluate whether the scientific literature was adequately evaluated by EPA, and whether appropriate methods were used to synthesize the scientific evidence and arrive at the conclusions. In particular, the committee will assess the approaches and methodologies implemented by EPA in response to recommendations, briefly described above, in the 2011 NAS report, *Review of the Environmental Protection Agency's Draft IRIS Assessment of Formaldehyde*. The committee will evaluate the assessment's conclusions using the charge questions set forth by EPA and will not conduct an independent assessment of the health risks associated with formaldehyde. This task will consist of three (3) subtasks.

##### ***Subtask 1.1. – Establish expert panel***

EPA requests that NAS establish an expert panel of up to 15 experts following their procedures on committee composition, balance, and conflict of interest. Recommended areas of expertise include the following:

- Public health risk assessment expertise, especially current experience supporting regulatory decisions in the context of the available scientific information for public health and environmental protection (e.g., state risk assessors). It would be preferable if this expert(s) has demonstrated experience with systematic review methods for environmental exposures;
- Environmental epidemiology, especially in the areas of cancer, reproductive, and respiratory (including asthma) effects (i.e. multiple experts are needed);

- Toxicology, especially in the areas of respiratory effects, neurotoxicology, and/ or reproductive/developmental toxicology. It would be useful, but not essential, if one of these experts had experience with biological modeling (e.g., dosimetric modeling; physiologically-based modeling);
- Exposure measures for observational epidemiology studies of environmental and occupational exposures; and
- Dose-response analysis of environmental chemicals, especially current experience with data analysis for human exposure studies, including observational studies.

***Subtask 1.2. – Conduct an independent external peer review and convene a meeting(s)***

EPA requests that the NAS conduct an independent external peer review of the draft IRIS Toxicological Review for formaldehyde. In coordination with the NAS, EPA will transmit charge questions, along with the external peer review draft assessment, prior to the peer review. EPA also requests that the NAS organize an external peer review meeting(s) for the peer review panel to discuss their recommendations for the draft assessment.

***Subtask 1.3. – Prepare report on the draft IRIS Toxicological Review of Formaldehyde (Inhalation)***

The expert panel shall develop, reflecting panel consensus where possible, a final report on their review and evaluation of the EPA document. Within the peer review report, the NAS shall promote clarity and the timely completion of the IRIS Toxicological Review of Formaldehyde (Inhalation) by prioritizing and/or tiering recommendations provided to EPA under the following system:

*Tier 1: Recommended Revisions*– Important revisions for EPA to consider and address in order to improve the critical scientific concepts, issues, and/or narrative within the assessment.

*Tier 2: Suggested Revisions* – Revisions that are encouraged to strengthen or clarify the scientific concepts, issues, and/or narrative within the assessment but are not critical. Other factors (e.g., Agency practice and resources) may need to be considered by EPA before undertaking these revisions.

*Tier 3: Future Considerations*– Useful and potentially informative scientific exploration that may inform future evaluations of key science issues and/or inform the development of future assessments. These recommendations are likely outside the immediate scope and/or needs of the assessment under review.

## **Task 2 – Review of an EPA Draft IRIS Toxicological Review**

EPA requests that the NAS perform an expert peer review of a draft IRIS Toxicological Review to evaluate whether the scientific literature was adequately evaluated by EPA, and whether appropriate methods were used to synthesize the scientific evidence and arrive at the conclusions. The committee will evaluate the assessment's conclusions using the charge questions set forth by EPA. The committee will not conduct an independent assessment. This task will consist of three (3) subtasks.

### ***Subtask 2.1 – Establish expert panel***

EPA requests that NAS establish an expert panel of up to 15 experts following their procedures on committee composition, balance, and conflict of interest. Recommended areas of expertise include public health assessment expertise, epidemiology, toxicology, and expertise in dose-response analysis of environmental chemicals. EPA will provide technical direction on specific types of expertise with the chemical assessment that is to be reviewed.

### ***Subtask 2.2. – Conduct an independent external peer review and convene a meeting(s)***

EPA requests that the NAS conduct an independent external peer review of a draft IRIS Toxicological Review. In coordination with the NAS, EPA will transmit charge questions, along with the external peer review draft assessment, prior to the external peer review. EPA also requests that the NAS organize an external peer review meeting(s) for the peer review panel to discuss their recommendations for the draft assessment. meeting.

### ***Subtask 2.3. – Prepare report on the draft IRIS Toxicological Review***

The expert panel shall develop, reflecting panel consensus where possible, a final report on their review and evaluation of the EPA document. Within the peer review report, the NAS shall promote clarity and the timely completion of the IRIS Toxicological Review by prioritizing and/or tiering recommendations provided to EPA under the following system:

*Tier 1: Recommended Revisions*— Important revisions for EPA to consider and address in order to improve the critical scientific concepts, issues, and/or narrative within the assessment.

*Tier 2: Suggested Revisions* – Revisions that are encouraged to strengthen or clarify the scientific concepts, issues, and/or narrative within the assessment but

are not critical. Other factors (e.g., Agency practice and resources) may need to be considered by EPA before undertaking these revisions.

*Tier 3: Future Considerations*– Useful and potentially informative scientific exploration that may inform future evaluations of key science issues and/or inform the development of future assessments. These recommendations are likely outside the immediate scope and/or needs of the assessment under review.

#### **IV. Deliverables**

The products of the tasks defined in Section III are as follows:

- 1) EPA requests that written progress reports be provided to the EPA CO and TOM quarterly and after each meeting including an update of the project milestone chart.
- 2) The primary product of this task order are two (2) external peer review reports that, where possible, reflect a consensus view from the committee, on EPA's external review draft of the IRIS Toxicological Reviews. This review and subsequent report shall focus on responding to charge questions. It is requested that the final report shall be delivered within 6 months of receipt of the draft IRIS Toxicological Review. The primary products of this review shall be coordinated in accordance with NRC procedures. Copies of the report summary shall be made available on the internet through the National Academy Press, as well as for distribution by EPA electronically.
- 3) For the public meetings requested, the EPA CO and TOM shall be informed via email of the time, location, and agenda of the meeting at least 60 days prior to the meeting. All communications regarding public meetings should go through the EPA CO and TOM. The NAS should also provide an agenda of the public meeting in accordance with the Section 15 of FACA that requires the contractor to "summarize" certain aspects of non-public meetings and make that available through their website.
- 4) If public websites or similar means are used to disseminate information to the public during the course of this task, the EPA CO and TOM shall be notified of the location of such information (e.g., websites), as well as relevant changes to them.

#### **V. Oversight**

All interactions concerning charge, scope, expertise, milestones, meetings dates, and meeting agendas and deliverables under this Task Order shall be restricted to the EPA contracting office (CO) and the task order manager (TOM).

#### **VI. Acceptance.**

Administrative acceptance of the contract deliverables will be by the EPA TOM, after review and acceptance by EPA.

**VII. Acceptance Criteria:**

NAS shall prepare and deliver 508 compliant documents and reports that are technically accurate, complete, timely, grammatically correct, and free of spelling errors. These documents and reports shall conform to the specific task, charge, expertise, and deliverables of this Task Order.

**EPA Contact Information**

***Task Order Manager:***

Vicki Soto  
U.S. Environmental Protection Agency  
Office of Research and Development  
National Center for Environmental Assessment  
E-mail: soto.vicki@epa.gov  
Phone: (703) 347-0290  
Fax: (703) 347-8691

***Alternate Task Order Manager:***

Dahnish Shams  
U.S. Environmental Protection Agency  
Office of Research and Development  
National Center for Environmental Assessment  
E-mail: shams.dahnish@epa.gov  
Phone: (703) 347-0167  
Fax: (703) 347-8691

Message

---

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 5/1/2017 12:49:40 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** Fw: Final NAS TO - FA and iA  
**Attachments:** NAS\_Task Order XXX for FA iA\_v3.docx

I never did get a chance to look at this "one last time"- did you?

---

**From:** Shams, Dahnish  
**Sent:** Tuesday, April 25, 2017 11:12 AM  
**To:** Birchfield, Norman; Glenn, Barbara; Kraft, Andrew; Gift, Jeff; Davis, Allen; Lee, Janice  
**Cc:** Soto, Vicki  
**Subject:** Final NAS TO - FA and iA

# Deliberative Process / Ex. 5

Dahnish

Integrated Risk Information System (IRIS) Program  
National Center for Environmental Assessment  
Office of Research and Development, U.S. EPA  
O: (703) 347-0167

Message

**From:** Bahadori, Tina [Bahadori.Tina@epa.gov]  
**Sent:** 9/27/2017 10:45:10 AM  
**To:** Thayer, Kris [thayer.kris@epa.gov]; Bussard, David [Bussard.David@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: Draft response to ACC - latest formaldehyde letter  
**Attachments:** ACC FA Response\_Oct 2017\_draft1\_DBCmts\_TB.docx

## Deliberative Process / Ex. 5

T.

**From:** Thayer, Kris  
**Sent:** Wednesday, September 27, 2017 5:01 AM  
**To:** Bussard, David <Bussard.David@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** RE: Draft response to ACC - latest formaldehyde letter

These edits look fine to me....

And yes Dan is Dan Morgan from NTP.

**From:** Bussard, David  
**Sent:** Tuesday, September 26, 2017 5:46 PM  
**To:** D'Amico, Louis <DAmico.Louis@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** RE: Draft response to ACC - latest formaldehyde letter

Lou,

## Deliberative Process / Ex. 5

Re Dan Morgan, I have a

hypothesis: **Deliberative Process / Ex. 5**

**Deliberative Process / Ex. 5**

David

**From:** D'Amico, Louis  
**Sent:** Tuesday, September 26, 2017 5:29 PM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** Draft response to ACC - latest formaldehyde letter

Hi gang,

Take a look. First draft of a response to ACC. Incoming letter attached as well. Edits sooner rather than later would be greatly appreciated.

-Lou

Louis D'Amico, Ph.D.

Assistant Center Director for Communications and Regulatory Support (Acting)

National Center for Environmental Assessment | U.S. EPA - Office of Research and Development

Mail Code 8601P | 1200 Pennsylvania Ave, NW | Washington, DC 20460

Physical/Overnight Delivery Address: U.S. EPA | One Potomac Yard (South Building), S-11346 | 2777 S. Crystal Drive |  
Arlington, VA 22202

Office: 703-347-0344 | Mobile: 703-859-1719 | Fax: 703-347-8689 | email: [damico.louis@epa.gov](mailto:damico.louis@epa.gov)



Message

---

**From:** Carter, Greg [Greg.Carter@icf.com]  
**Sent:** 6/21/2018 1:32:59 PM  
**To:** Soto, Vicki [Soto.Vicki@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Samuels, Crystal [Samuels.Crystal@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Kellar, Penelope [Penelope.Kellar@icf.com]  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks

Greg

---

**From:** Soto, Vicki [mailto:Soto.Vicki@epa.gov]  
**Sent:** Wednesday, June 20, 2018 6:06 PM  
**To:** Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Cc:** Carter, Greg <Greg.Carter@icf.com>; Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Kellar, Penelope <Penelope.Kellar@icf.com>  
**Subject:** Re: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

The HERO library is Formaldehyde.

Sent from my iPhone

On Jun 20, 2018, at 5:55 PM, Glenn, Barbara <Glenn.Barbara@epa.gov> wrote:

Are you not able to download the references from HERO into an Endnote file? That would be the best way to get them. Tomorrow we can try to address this.

---

**From:** Carter, Greg [mailto:Greg.Carter@icf.com]  
**Sent:** Wednesday, June 20, 2018 5:48 PM  
**To:** Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kellar, Penelope <Penelope.Kellar@icf.com>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Sorry for the piecemeal questions (probably won't be the last one), but,

Can you provide the EndNote library for the document(s)?

gc

---

**From:** Soto, Vicki [mailto:Soto.Vicki@epa.gov]  
**Sent:** Wednesday, June 20, 2018 1:31 PM  
**To:** Carter, Greg <Greg.Carter@icf.com>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kellar, Penelope <Penelope.Kellar@icf.com>; Soto, Vicki <Soto.Vicki@epa.gov>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Greg – I'm so sorry for the delay. See my responses below....

Vicki

Barbara – one for you, but I think that you had asked that they close up space if possible.

---

**From:** Carter, Greg [<mailto:Greg.Carter@icf.com>]  
**Sent:** Tuesday, June 19, 2018 10:51 AM  
**To:** Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>  
**Cc:** Samuels, Crystal <[Samuels.Crystal@epa.gov](mailto:Samuels.Crystal@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Kellar, Penelope <[Penelope.Kellar@icf.com](mailto:Penelope.Kellar@icf.com)>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks for this Vicki,  
See below, in red, some requests for clarification.

gc

**From:** Soto, Vicki [<mailto:Soto.Vicki@epa.gov>]  
**Sent:** Wednesday, June 13, 2018 4:43 PM  
**To:** Carter, Greg <[Greg.Carter@icf.com](mailto:Greg.Carter@icf.com)>  
**Cc:** Samuels, Crystal <[Samuels.Crystal@epa.gov](mailto:Samuels.Crystal@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>  
**Subject:** work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Greg,

## Deliberative Process / Ex. 5

Thanks!  
Vicki

## Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

---

Vicki Soto | 202-564-3077 | [soto.vicki@epa.gov](mailto:soto.vicki@epa.gov)  
ORD/NCEA/IRISD

Mailing Address:

USEPA Headquarters | William Jefferson Clinton Building | 1200 Pennsylvania Avenue, N.W. | MC: 8602R |  
Washington, DC 20460

Delivery Address:

USEPA Headquarters | William Jefferson Clinton Building | 1300 Pennsylvania Avenue, N.W. | MC: 8602R |  
Washington, DC 20460

Message

---

**From:** Champlin, Anna [Champlin.Anna@epa.gov]  
**Sent:** 2/8/2018 6:38:56 PM  
**To:** Bahadori, Tina [Bahadori.Tina@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]; Thayer, Kris [thayer.kris@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: Need perspective

Okay.

Anna (Osaka) Champlin  
National Center for Environmental Assessment  
EPA Office of Research and Development  
(Desk) 202-564-8074  
(Cell) 202-329-1552

---

**From:** Bahadori, Tina  
**Sent:** Thursday, February 08, 2018 1:34 PM  
**To:** Bussard, David <Bussard.David@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Champlin, Anna <Champlin.Anna@epa.gov>  
**Subject:** RE: Need perspective

**Deliberative Process / Ex. 5**

Thank you,  
Tina

---

**From:** Bussard, David  
**Sent:** Thursday, February 8, 2018 1:33 PM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Champlin, Anna <Champlin.Anna@epa.gov>  
**Subject:** RE: Need perspective

Tina,

**Deliberative Process / Ex. 5**

David

(Resending because I meant to "reply all" and moved too fast.)

---

**From:** Bahadori, Tina  
**Sent:** Thursday, February 08, 2018 1:17 PM  
**To:** Bussard, David <Bussard.David@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Champlin, Anna <Champlin.Anna@epa.gov>  
**Subject:** Need perspective

Hi everyone

# Deliberative Process / Ex. 5

**From:** Champlin, Anna  
**Sent:** Thursday, February 8, 2018 12:47 PM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Avery, James <Avery.James@epa.gov>  
**Cc:** Lehman, Rachel <lehman.rachel@epa.gov>  
**Subject:** RE: Media Chem. Risk Manager - Formaldehyde/Leukaemia - 2/9

Tina –

## Deliberative Process / Ex. 5

Anna (Osaka) Champlin  
National Center for Environmental Assessment  
EPA Office of Research and Development  
(Desk) 202-564-8074  
(Cell) 202-329-1552

**From:** Bahadori, Tina  
**Sent:** Wednesday, February 07, 2018 6:16 PM  
**To:** Champlin, Anna <Champlin.Anna@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Avery, James <Avery.James@epa.gov>  
**Cc:** Lehman, Rachel <lehman.rachel@epa.gov>  
**Subject:** RE: Media Chem. Risk Manager - Formaldehyde/Leukaemia - 2/9

## Deliberative Process / Ex. 5

Tina

**From:** Champlin, Anna  
**Sent:** Wednesday, February 7, 2018 4:02 PM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>; Avery, James <Avery.James@epa.gov>  
**Cc:** Lehman, Rachel <lehman.rachel@epa.gov>  
**Subject:** FW: Media Chem. Risk Manager - Formaldehyde/Leukaemia - 2/9

Hi Tina,

Below is a draft response to a media inquiry that we received this week about the formaldehyde assessment. The reporter's questions are below and concern this article (<https://www.sciencedirect.com/science/article/pii/S027323001730363X>) published last week. The reporter would like a response **by this Friday**.

### REPORTER QUESTIONS:

- Do we have any comment we would like to make about the review?
- Do we accept the conclusions of the review?
- Are we planning to re-issue the IRIS?

**DRAFT RESPONSE:**

# Deliberative Process / Ex. 5

Thanks,

Anna (Osaka) Champlin  
National Center for Environmental Assessment  
EPA Office of Research and Development  
(Desk) 202-564-8074  
(Cell) 202-329-1552

---

**From:** Sauerhage, Maggie  
**Sent:** Tuesday, February 6, 2018 9:14:54 AM  
**To:** Lehman, Rachel; Champlin, Anna  
**Cc:** Hubbard, Carolyn; Maguire, Megan; D'Amico, Louis  
**Subject:** Media Chem. Risk Manager - Formaldehyde/Leukaemia - 2/9

Hi ladies – please see below for an inquiry from Chemical Risk Manager. They're wondering if we'd like to comment on a recently published review in Regulatory Toxicology and Pharmacology which disputes a link between formaldehyde and leukemia as suggested by the 2010 draft IRIS assessment. The deadline is the end of this week.

The questions are:

- Do we have any comment we would like to make about the review?
- Do we accept the conclusions of the review?
- Are we planning to re-issue the IRIS? (not entirely clear on this one)

**OUTLET  
REPORTER  
DDL**

**CHEMICAL RISK MANAGER  
JUDITH CHAMBERLAIN  
FRIDAY 2/9**

**Good morning colleagues,  
Can we help this reporter?**

++

I work for a chemical news agency called Chemical Risk Manager, which is part of Chemical Watch and we were interested to read a review in Regulatory Toxicology and

Pharmacology which disputes a link between formaldehyde and leukaemia as suggested by the 2010 draft IRIS assessment.

I wonder if you have any comment you would like to make about the review and if you accept the conclusions and also whether you are planning to re-issue the IRIS?

The review was published in a peer-reviewed journal (Regulatory Toxicology and Pharmacology) last week I think and this is the link:

<https://www.sciencedirect.com/science/article/pii/S027323001730363X>

If you could get a comment on this for me that would be great. Ideally I would need a response by the end of the week if possible.

Many thanks

Judith

Message

---

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 2/8/2017 9:35:03 PM  
**To:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** RE: one more revision  
**Attachments:** Main SCC d-r-2-3-17-VERY REVISEDakbg.docx

Hi Ravi,

# Deliberative Process / Ex. 5

Thanks for turning this around so quickly, Ravi, we know you are very busy.  
-Andrew and Barbara

---

**From:** Subramaniam, Ravi  
**Sent:** Friday, February 03, 2017 10:17 AM  
**To:** Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** one more revision

# Deliberative Process / Ex. 5



# Deliberative Process / Ex. 5

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.  
Room PYS-11782/ Ph: (703) 347-8606 (o); (571) 305-3601 (m)

Message

---

**From:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]  
**Sent:** 2/3/2017 3:17:02 PM  
**To:** Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** one more revision  
**Attachments:** Main SCC d-r-2-3-17-VERY REVISED.docx

# Deliberative Process / Ex. 5

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.  
Room PYS-11782/ Ph: (703) 347-8606 (o); (571) 305-3601 (m)

Message

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**From:** Carter, Greg [Greg.Carter@icf.com]  
**Sent:** 6/19/2018 2:51:16 PM  
**To:** Soto, Vicki [Soto.Vicki@epa.gov]  
**CC:** Samuels, Crystal [Samuels.Crystal@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kellar, Penelope [Penelope.Kellar@icf.com]  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks for this Vicki,  
See below, in red, some requests for clarification.

gc

**From:** Soto, Vicki [mailto:Soto.Vicki@epa.gov]  
**Sent:** Wednesday, June 13, 2018 4:43 PM  
**To:** Carter, Greg <Greg.Carter@icf.com>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>  
**Subject:** work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Greg,

## Deliberative Process / Ex. 5

Thanks!  
Vicki

## Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

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Vicki Soto | 202-564-3077 | [soto.vicki@epa.gov](mailto:soto.vicki@epa.gov)  
ORD/NCEA/IRISD

Mailing Address:

USEPA Headquarters | William Jefferson Clinton Building | 1200 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

Delivery Address:

USEPA Headquarters | William Jefferson Clinton Building | 1300 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

Message

---

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 4/21/2017 5:57:07 PM  
**To:** Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** Fw: Formaldehyde Tox Review Merged Part A & B (WP-40W) Read for Author Review (Due 4/21/17)  
**Attachments:** Formaldehyde Main Text - IRD.docx

FYI, I will try to take a look today, and will upload to SharePoint.

---

**From:** NCEA\_TSS  
**Sent:** Friday, April 21, 2017 1:46 PM  
**To:** Cunningham, Taukecha  
**Cc:** Schaffner, Thomas; Walker, Lisa; Zwayer, Bette; Tackett, Linda; Kraft, Andrew; Glenn, Barbara; Soto, Vicki; Konoza, Terri; NCEA\_TSS  
**Subject:** Formaldehyde Tox Review Merged Part A & B (WP-40W) Read for Author Review (Due 4/21/17)

Dear Taukecha,

# Deliberative Process / Ex. 5

Thank you,

Kathleen Bland

Technical Support Services  
Highlight Technologies, LLC contractor for U.S. EPA, NCEA  
26 W. Martin Luther King Ave, Rm A-G41  
Cincinnati, OH 45220

---

**From:** Cunningham, Taukecha  
**Sent:** Wednesday, March 29, 2017 5:31 PM

**To:** Heing, Dan

**Cc:** NCEA\_TSS; NCEA\_TSS\_SG; Schaffner, Thomas; Walker, Lisa; Zwayer, Bette; Tackett, Linda; Kraft, Andrew; Glenn, Barbara; Soto, Vicki; Konoza, Terri

**Subject:** RE: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Dan,

Yes this is exactly what we need done and please feel to let us know if you have any other questions.

Thanks,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*

703-347-0294

[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Heing, Dan

**Sent:** Wednesday, March 29, 2017 5:28 PM

**To:** Cunningham, Taukecha <Cunningham.Taukecha@epa.gov>

**Cc:** NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; Schaffner, Thomas <Schaffner.Thomas@epa.gov>; Walker, Lisa <Walker.Lisa@epa.gov>; Zwayer, Bette <zwayer.bette@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>

**Subject:** Re: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Taukecha,

# Deliberative Process / Ex. 5

Please advise and thanks.

Dan

**Dan Heing** | *Project Manager*

Office 513.569.7725

Mobile 513.377.1130



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**From:** Cunningham, Taukecha

**Sent:** Wednesday, March 29, 2017 4:12 PM

**To:** Heing, Dan <Heing.Dan@epa.gov>

**Cc:** NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; Schaffner, Thomas <Schaffner.Thomas@epa.gov>; Walker, Lisa <Walker.Lisa@epa.gov>; Zwyer, Bette <zwyer.bette@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>

**Subject:** FW: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Dan,

## Deliberative Process / Ex. 5

Thanks,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*

703-347-0294



[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

here are the tasks for Editing:

- |                                       |  |
|---------------------------------------|--|
| <input type="radio"/> Edit            | <input type="radio"/> Customized (specify in Special Instructions) |
| <input type="radio"/> Electronic Edit | <input type="radio"/> Light  |
| <input type="radio"/> Hard-Copy Edit  | <input type="radio"/> Grammar                                      |
|                                       | <input type="radio"/> Style  |
| <input type="radio"/> Write           | <input type="radio"/> Comprehensive                                |

Here are the tasks for work processing

**NCEA Word Processing/Graphics Support Request**Requestor(s): Date Requested: Date Required: Status: Product type: Stage: OMIS Task # NCEA-C-# APM # ☒ Formatting (select file format below)☐ Scan (select file format below)

## Select requested formatting

(each step requires repagination and table of contents changes when done separately)

- ☐ Margins, footers, page numbering, create/format front matter
- ☐ Auto headings and captions, auto table of contents creation and formatting
- ☐ Format tables and figures (requires source files)
- ☐ Format text (globals, line spacing, etc.)
- ☐ Format appendices
- ☐ Abbreviation check
- ☐ Text-to-reference check (in-text vs. bibliography) (TSS)
- ☐ Bibliography verification and formatting (TIU)
- ☐ Full format (all of the above)

**From:** Heing, Dan**Sent:** Wednesday, March 29, 2017 3:20 PM**To:** Cunningham, Taukecha <Cunningham.Taukecha@epa.gov>

**Cc:** NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; Heing, Dan <Heing.Dan@epa.gov>; Schaffner, Thomas <Schaffner.Thomas@epa.gov>; Walker, Lisa <Walker.Lisa@epa.gov>; Zwyer, Bette <zwyer.bette@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>

**Subject:** FW: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Dear Taukecha,

# Deliberative Process / Ex. 5

Thanks

Dan Heing | Project Manager

Office 513.569.7725

Mobile 513.377.1130





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8(a), Woman Owned, ISO 9001:2008, CMMI Level 2

---

**From:** Cunningham, Taukecha

**Sent:** Wednesday, March 29, 2017 11:32 AM

**To:** Heing, Dan <Heing.Dan@epa.gov>

**Cc:** NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; CI NCEA EDIT

<CI\_NCEA\_EDIT@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>; Zwayer, Bette <zwayer.bette@epa.gov>

**Subject:** RE: Formaldehyde Tox Review, Part a & b

Hi Dan,

## Deliberative Process / Ex. 5


Thank you,

*Taukecha Cunningham*

*Information Management Specialist*

*U.S. EPA/ORD*

*National Center for Environmental Assessment*

703-347-0294 

[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Heing, Dan

**Sent:** Wednesday, March 29, 2017 10:43 AM

**To:** Cunningham, Taukecha <Cunningham.Taukecha@epa.gov>

**Cc:** NCEA\_TSS <NCEA\_TSS@epa.gov>; NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>; CI NCEA EDIT

<CI\_NCEA\_EDIT@epa.gov>; Tackett, Linda <Tackett.Linda@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>; Zwayer, Bette <zwayer.bette@epa.gov>



**Subject:** RE: Formaldehyde Tox Review, Part a & b

Dear Taukecha,

We are estimating that we will have the document finished and to you by COB, Wednesday, 5/17/17. Please let us know of any feedback you have on this schedule.

Thanks,

**Dan Heing** | *Project Manager*

Office 513.569.7725  Mobile 513.377.1130 

dheing@HighlightTech.com | www.HighlightTech.com



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---


**From:** NCEA\_TSS  
**Sent:** Tuesday, March 28, 2017 1:59 PM  
**To:** NCEA\_TSS\_SG <NCEA\_TSS\_SG@epa.gov>  
**Subject:** FW: Formaldehyde Tox Review, Part a & b

---

**From:** Cunningham, Taukecha  
**Sent:** Tuesday, March 28, 2017 1:59:24 PM (UTC-05:00) Eastern Time (US & Canada)  
**To:** NCEA\_TSS  
**Cc:** Glenn, Barbara; Soto, Vicki; Konoza, Terri; Zwayer, Bette; Kraft, Andrew  
**Subject:** RE: Formaldehyde Tox Review, Part a & b  
Hi Kathleen,

## Deliberative Process / Ex. 5

Thanks,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*  
  
703-347-0294  
[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Kraft, Andrew  
**Sent:** Tuesday, March 28, 2017 1:52 PM  
**To:** NCEA\_TSS <NCEA\_TSS@epa.gov>; Cunningham, Taukecha <Cunningham.Taukecha@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>; Konoza, Terri <Konoza.Terri@epa.gov>; Zwayer, Bette <zwayer.bette@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** RE: Formaldehyde Tox Review, Part a & b

Hi Kathleen,

Thank you so much for the information on how to make revisions after the tech edit- very helpful!

## Deliberative Process / Ex. 5

Thank you, and please let us know if you have any additional questions.

-Andrew

---

**From:** NCEA\_TSS

**Sent:** Tuesday, March 28, 2017 1:28 PM

**To:** Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>

**Cc:** Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>; Konoza, Terri <[Konoza.Terri@epa.gov](mailto:Konoza.Terri@epa.gov)>; Zwayer, Bette <[zwayer.bette@epa.gov](mailto:zwayer.bette@epa.gov)>

**Subject:** Re: Formaldehyde Tox Review, Part a & b

Dear Taukecha,

We are currently working on the files that you sent and had a few questions:

# Deliberative Process / Ex. 5

Please let us know if you have further questions or concerns.

Send any further correspondence on this request to [NCEA\\_TSS@epa.gov](mailto:NCEA_TSS@epa.gov).

Thank you,

Kathleen Bland

Technical Support Services

Highlight Technologies, LLC contractor for U.S. EPA, NCEA  
26 W. Martin Luther King Ave, Rm A-G41  
Cincinnati, OH 45220

---

**From:** Cunningham, Taukecha  
**Sent:** Friday, March 24, 2017 4:14 PM  
**To:** NCEA\_TSS  
**Cc:** Kraft, Andrew; Glenn, Barbara; Soto, Vicki; Konoza, Terri; Zwayer, Bette  
**Subject:** FW: Formaldehyde Tox Review, Part a & b

Hello,

# Deliberative Process / Ex. 5

Please give us a date on when you will have the document completed.

Thank you,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*

703-347-0294 

[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Kraft, Andrew  
**Sent:** Thursday, March 23, 2017 5:01 PM  
**To:** Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>  
**Cc:** Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>  
**Subject:** Formaldehyde Tox Review, Part "b"

Hooray!

Message

---

**From:** Bahadori, Tina [Bahadori.Tina@epa.gov]  
**Sent:** 9/8/2017 3:51:44 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**CC:** Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Lavoie, Emma [Lavoie.Emma@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Hagerthey, Scot [Hagerthey.Scot@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]  
**Subject:** RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

**Deliberative Process / Ex. 5**

---

**From:** Kraft, Andrew  
**Sent:** Friday, September 8, 2017 11:32 AM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>  
**Cc:** Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

FYI. I was trying to avoid cc'ing everyone who weighed in on the outgoing email. Barbara and I plan to just have whichever managers participate on the phone call run things that need to be shared back up the management chain (I anticipate there will be nothing).

-Andrew

---

**From:** Kraft, Andrew  
**Sent:** Friday, September 8, 2017 11:20 AM  
**To:** Lidka Maslankiewicz  
**Cc:** Els Smit; Paul Janssen; Joke Herremans; Glenn, Barbara; D'Amico, Louis; Bussard, David; Thayer, Kris  
**Subject:** Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Hi Lidka,

Barbara (Glenn) and I are the current chemical managers of the formaldehyde assessment . We were hoping we might be able to set up a phone conversation to talk through the current status of the assessment and your questions below? If so, I can send out some type of Google poll or similar to find a time that works for everyone who might want to participate?

I would emphasize to you that the draft you mention was never finalized after it was released for the purposes of peer consultation and review. Thus, it should not be cited as an EPA position. We can explain this in greater detail when we talk.

We look forward to future conversations,  
Andrew and Barbara

---

**From:** Lidka Maslankiewicz <lidka.maslankiewicz@rivm.nl>  
**Sent:** Tuesday, August 29, 2017 7:59 AM

**To:** Kraft, Andrew

**Cc:** Els Smit; Paul Janssen; Joke Herremans

**Subject:** Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,

My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.

We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response" ([https://cfpub.epa.gov/ncea/iris\\_drafts/recordisplay.cfm?deid=223614](https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614)), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

IRIS Toxicological Review of Formaldehyde (Inhalation ...

[cfpub.epa.gov](https://cfpub.epa.gov)

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010 Federal Register Notice. This draft assessment is ...

Kind regards

Lidka

Lidka Maslankiewicz

National Institute for Public Health and the Environment (RIVM)

Centre for Safety of Substances and Products

tel. 31 (0)30 2743160

+31 6 46 86 07 73

fax. 31 (0)30 2744401

e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden en het bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook, die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.

[www.rivm.nl](http://www.rivm.nl) De zorg voor morgen begint vandaag

RIVM

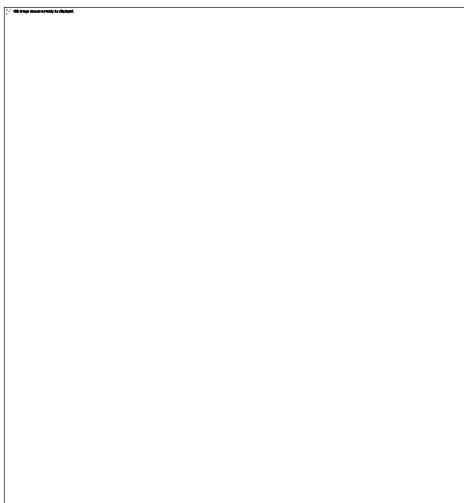
[www.rivm.nl](http://www.rivm.nl)

Dit Nederlandse overheidsinstituut verzorgt informatie, monitoring en wetenschappelijke onderbouwing van het volksgezondheidsbeleid. Ook valt het informatiecentrum ...

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Rijksinstituut  
voor  
Volksgezondheid  
en Milieu - RIVM

[www.rivm.nl](http://www.rivm.nl)

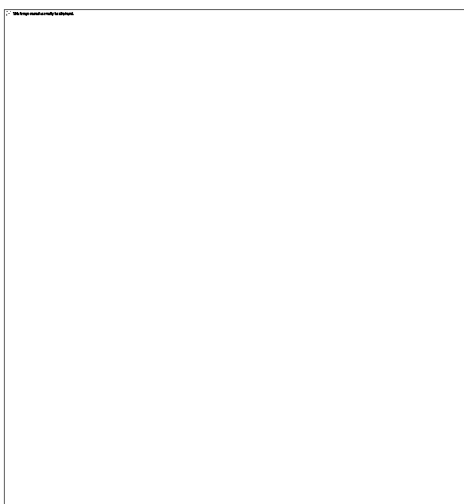
Dutch experts on  
climate change  
adaptation join forces.  
Fourteen Dutch  
knowledge institutes  
have joined forces to  
provide practical,  
demand-driven policy  
advice based ...

---

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden en het bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook, die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.

[www.rivm.nl](http://www.rivm.nl) *De zorg voor morgen begint vandaag*

---



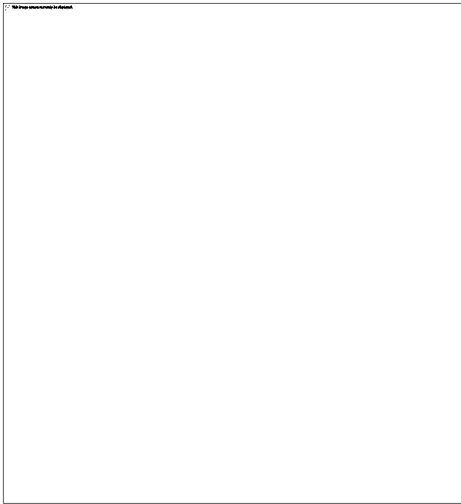
RIVM

[www.rivm.nl](http://www.rivm.nl)

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wetenschappelijke  
onderbouwing van het  
volksgezondheidsbeleid.  
Ook valt het  
informatiecentrum ...

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---



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voor  
Volksgezondheid  
en Milieu - RIVM

[www.rivm.nl](http://www.rivm.nl)

Dutch experts on  
climate change  
adaptation join forces.  
Fourteen Dutch  
knowledge institutes  
have joined forces to  
provide practical,  
demand-driven policy  
advice based ...

---



Message

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 11/30/2017 2:33:10 PM  
**To:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]; Bussard, David [Bussard.David@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]; Vulimiri, Suryanarayana [Vulimiri.Sury@epa.gov]  
**Subject:** RE: Hot off the press on Endogenous Formaldehyde  
**Attachments:** formaldehyde\_assessment overview\_IOAAreview\_102617rssvedits.docx; Formaldehyde Main Text 102417rssvEdits.docx

Hi Ravi, good question.

**Deliberative Process / Ex. 5**

**Deliberative Process / Ex. 5**

# Deliberative Process / Ex. 5

Thanks!

**From:** Subramaniam, Ravi  
**Sent:** Thursday, November 30, 2017 9:09 AM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Bussard, David <Bussard.David@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>  
**Subject:** RE: Hot off the press on Endogenous Formaldehyde

# Deliberative Process / Ex. 5

*Ravi,*

Ravi Subramaniam  
RRB 51237/ (202) 564-2445 (o), (571) 305-3601 (m)

**From:** Kraft, Andrew  
**Sent:** Thursday, November 30, 2017 7:56 AM  
**To:** Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>; Bussard, David <Bussard.David@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; Vulimiri, Suryanarayana <Vulimiri.Sury@epa.gov>  
**Subject:** RE: Hot off the press on Endogenous Formaldehyde

**Deliberative Process / Ex. 5**

Thanks for sharing, Sury!

**From:** Subramaniam, Ravi  
**Sent:** Thursday, November 30, 2017 7:26 AM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>  
**Cc:** Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>  
**Subject:** Re: Hot off the press on Endogenous Formaldehyde

# Deliberative Process / Ex. 5

--Ravi.

Ravi Subramaniam, Ph.D.  
*Chief, Toxic Effects Branch, IRIS, NCEA, EPA*  
RRB 51237/ (202) 564-2445 (O) / (571) 305-3601 (m)

On Nov 30, 2017, at 7:04 AM, Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)> wrote:

Ravi

# Deliberative Process / Ex. 5

David Bussard

Begin forwarded message:

**From:** "Vulimiri, Suryanarayana" <[Vulimiri.Sury@epa.gov](mailto:Vulimiri.Sury@epa.gov)>  
**Date:** November 29, 2017 at 5:39:41 PM EST  
**To:** "Bussard, David" <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>  
**Subject:** RE: Hot off the press on Endogenous Formaldehyde

# Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

Sury

**Sury Vulimiri, Ph.D.,** DABT National Center for Environmental Assessment, Office of Research & Development, US EPA. Phone: 919-541-3558 | Fax: 919-541-0245 | [vulimiri.sury@epa.gov](mailto:vulimiri.sury@epa.gov)

---

**From:** Bussard, David  
**Sent:** Wednesday, November 29, 2017 5:06 PM  
**To:** Vulimiri, Suryanarayana <[Vulimiri.Sury@epa.gov](mailto:Vulimiri.Sury@epa.gov)>  
**Subject:** RE: Hot off the press on Endogenous Formaldehyde

Thanks Sury

# Deliberative Process / Ex. 5

David

---

**From:** Vulimiri, Suryanarayana  
**Sent:** Wednesday, November 29, 2017 4:43 PM  
**To:** Bateson, Thomas <[Bateson.Thomas@epa.gov](mailto:Bateson.Thomas@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Fritz, Jason <[Fritz.Jason@epa.gov](mailto:Fritz.Jason@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Makris, Susan <[Makris.Susan@epa.gov](mailto:Makris.Susan@epa.gov)>; Segal, Deborah <[Segal.Deborah@epa.gov](mailto:Segal.Deborah@epa.gov)>; Subramaniam, Ravi <[Subramaniam.Ravi@epa.gov](mailto:Subramaniam.Ravi@epa.gov)>; Vulimiri, Suryanarayana <[Vulimiri.Sury@epa.gov](mailto:Vulimiri.Sury@epa.gov)>; Whalan, John <[Whalan.John@epa.gov](mailto:Whalan.John@epa.gov)>  
**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>  
**Subject:** Hot off the press on Endogenous Formaldehyde

Nature. 2017 Aug 31;548(7669):549-554. doi: 10.1038/nature23481. Epub 2017 Aug 16.

**Mammals divert endogenous genotoxic formaldehyde into one-carbon metabolism.**

Burgos-Barragan G<sup>1</sup>, Wit N<sup>1</sup>, Meiser J<sup>2</sup>, Dingler FA<sup>1</sup>, Pietzke M<sup>2</sup>, Mulderrig L<sup>1</sup>, Pontel LB<sup>1</sup>, Rosado IV<sup>1</sup>, Brewer TF<sup>1</sup>, Cordell RL<sup>1</sup>, Monks PS<sup>1</sup>, Chang CJ<sup>1</sup>, Vazquez A<sup>2</sup>, Patel KJ<sup>1,6</sup>.

#### Author information

1

MRC Laboratory of Molecular Biology, Francis Crick Avenue, Cambridge CB2 0QH, UK.

2

Cancer Research UK Beatson Institute, Glasgow G61 1BD, UK.

3

Instituto de Biomedicina de Sevilla (IBiS) Hospital Universitario Virgen del Rocío/CSIC/Universidad de Sevilla, 41013 Seville, Spain.

4

Department of Chemistry, Department of Molecular and Cell Biology, and Howard Hughes Medical Institute, University of California, Berkeley, Berkeley, California 94720, USA.

5

Department of Chemistry, University of Leicester, Leicester LE1 7RH, UK.

6

University of Cambridge, Department of Medicine, Addenbrooke's Hospital, Cambridge CB2 2QQ, UK.

#### Abstract

The folate-driven one-carbon (1C) cycle is a fundamental metabolic hub in cells that enables the synthesis of nucleotides and amino acids and epigenetic modifications. This cycle might also release formaldehyde, a potent protein and DNA crosslinking agent that organisms produce in substantial quantities. Here we show that supplementation with tetrahydrofolate, the essential cofactor of this cycle, and other oxidation-prone folate derivatives kills human, mouse and chicken cells that cannot detoxify formaldehyde or that lack DNA crosslink repair. Notably, formaldehyde is generated from oxidative decomposition of the folate backbone. Furthermore, we find that formaldehyde detoxification in human cells generates formate, and thereby promotes nucleotide synthesis. This supply of 1C units is sufficient to sustain the growth of cells that are unable to use serine, which is the predominant source of 1C units. These findings identify an unexpected source of formaldehyde and, more generally, indicate that the detoxification of this ubiquitous endogenous genotoxin creates a benign 1C unit that can sustain essential metabolism.

PMID:

28813411

DOI:

[10.1038/nature23481](https://doi.org/10.1038/nature23481)

<< File: Burgos-Barragan et al 2017\_EndogenousFA.pdf >> << File: Pontel et al 2015\_SV.pdf >>

So the bottom line is that endogenous formaldehyde is safely handled by the cells diverting it into normal cellular metabolism. This is published in Nature (PDF attached).

## **Deliberative Process / Ex. 5**

**Sury Vulimiri, Ph.D.,** DABT National Center for Environmental Assessment, Office of Research & Development, US EPA. Phone: 919-541-3558 | Fax: 919-541-0245 | [vulimiri.sury@epa.gov](mailto:vulimiri.sury@epa.gov)



Message

---

**From:** Cunningham, Taukecha [Cunningham.Taukecha@epa.gov]  
**Sent:** 3/24/2017 8:14:42 PM  
**To:** NCEA\_TSS [NCEA\_TSS@epa.gov]  
**CC:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Soto, Vicki [Soto.Vicki@epa.gov]; Konoza, Terri [Konoza.Terri@epa.gov]; Zwayer, Bette [zwayer.bette@epa.gov]  
**Subject:** FW: Formaldehyde Tox Review, Part a & b  
**Attachments:** FormaldehydeTRdraftTechEdit032317\_b.docx; FormaldehydeTRdraftTechEdit032317\_a.docx; Formaldehyde Edit Request Form.pdf; Formaldehyde Graphics Support.pdf

Hello,

# Deliberative Process / Ex. 5

Please give us a date on when you will have the document completed.

Thank you,

*Taukecha Cunningham*  
*Information Management Specialist*  
*U.S. EPA/ORD*  
*National Center for Environmental Assessment*  
*703-347-0294*  
*Cunningham.Taukecha@epa.gov*

---

**From:** Kraft, Andrew  
**Sent:** Thursday, March 23, 2017 5:01 PM  
**To:** Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Cunningham, Taukecha <Cunningham.Taukecha@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** Formaldehyde Tox Review, Part "b"

Hooray!

Message

---

**From:** Soto, Vicki [Soto.Vicki@epa.gov]  
**Sent:** 4/21/2017 5:49:15 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Cunningham, Taukecha [Cunningham.Taukecha@epa.gov]  
**Subject:** Fwd: Formaldehyde Tox Review Merged Part A & B (WP-40W) Read for Author Review (Due 4/21/17)  
**Attachments:** image001.png; ATT00001.htm; image002.png; ATT00002.htm; image003.png; ATT00003.htm; image001.png; ATT00004.htm; image001.png; ATT00005.htm; Formaldehyde Main Text - IRD.docx; ATT00006.htm

Hi

I did not have a chance to check these over but I will look in a bit. I had some car issues today and have been at the dealers:( I know you are anxious to take a look.

Vicki

Sent from my iPhone

Begin forwarded message:

**From:** NCEA\_TSS <NCEA\_TSS@epa.gov>  
**Date:** April 21, 2017 at 1:46:05 PM EDT  
**To:** "Cunningham, Taukecha" <Cunningham.Taukecha@epa.gov>  
**Cc:** "Schaffner, Thomas" <Schaffner.Thomas@epa.gov>, "Walker, Lisa" <Walker.Lisa@epa.gov>, "Zwayer, Bette" <zwayer.bette@epa.gov>, "Tackett, Linda" <Tackett.Linda@epa.gov>, "Kraft, Andrew" <Kraft.Andrew@epa.gov>, "Glenn, Barbara" <Glenn.Barbara@epa.gov>, "Soto, Vicki" <Soto.Vicki@epa.gov>, "Konoza, Terri" <Konoza.Terri@epa.gov>, NCEA\_TSS <NCEA\_TSS@epa.gov>  
**Subject:** Formaldehyde Tox Review Merged Part A & B (WP-40W) Read for Author Review (Due 4/21/17)

Dear Taukecha,

**Deliberative Process / Ex. 5**

Please let TSS know if you have any questions. Send any further correspondence on this request to [NCEA\\_TSS@epa.gov](mailto:NCEA_TSS@epa.gov).

Thank you,

Kathleen Bland

Technical Support Services

Highlight Technologies, LLC contractor for U.S. EPA, NCEA  
26 W. Martin Luther King Ave, Rm A-G41  
Cincinnati, OH 45220

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
**From:** Cunningham, Taukecha  
**Sent:** Wednesday, March 29, 2017 5:31 PM  
**To:** Heing, Dan  
**Cc:** NCEA\_TSS; NCEA\_TSS\_SG; Schaffner, Thomas; Walker, Lisa; Zwayer, Bette; Tackett, Linda; Kraft, Andrew; Glenn, Barbara; Soto, Vicki; Konoza, Terri  
**Subject:** RE: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Dan,

Yes this is exactly what we need done and please feel to let us know if you have any other questions.

Thanks,

*Taukecha Cunningham  
Information Management Specialist  
U.S. EPA/ORD  
National Center for Environmental Assessment*

703-347-0294 

[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)

---

**From:** Heing, Dan  
**Sent:** Wednesday, March 29, 2017 5:28 PM  
**To:** Cunningham, Taukecha <[Cunningham.Taukecha@epa.gov](mailto:Cunningham.Taukecha@epa.gov)>  
**Cc:** NCEA\_TSS <[NCEA\\_TSS@epa.gov](mailto:NCEA_TSS@epa.gov)>; NCEA\_TSS\_SG <[NCEA\\_TSS\\_SG@epa.gov](mailto:NCEA_TSS_SG@epa.gov)>; Schaffner, Thomas <[Schaffner.Thomas@epa.gov](mailto:Schaffner.Thomas@epa.gov)>; Walker, Lisa <[Walker.Lisa@epa.gov](mailto:Walker.Lisa@epa.gov)>; Zwayer, Bette <[zwayer.bette@epa.gov](mailto:zwayer.bette@epa.gov)>; Tackett, Linda <[Tackett.Linda@epa.gov](mailto:Tackett.Linda@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>; Konoza, Terri <[Konoza.Terri@epa.gov](mailto:Konoza.Terri@epa.gov)>  
**Subject:** Re: Formaldehyde Tox Review, Part a & b; Revised Contractor Schedule

Taukecha,



# Deliberative Process / Ex. 5

Please advise and thanks.

Dan

**Dan Heing** | *Project Manager*

Office 513.569.7725



Mobile 513.377.1130



[dheing@HighlightTech.com](mailto:dheing@HighlightTech.com) | [www.HighlightTech.com](http://www.HighlightTech.com)

Message

---

**From:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]  
**Sent:** 3/24/2017 5:56:15 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** another significant revision  
**Attachments:** Main SCC d-r-03-24-17-hyperplasia-revised.docx

**Importance:** High

# Deliberative Process / Ex. 5

Attaching the revised.

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.  
Room PYS-11782/ Ph: (703) 347-8606 (o); (571) 305-3601 (m)

Message

---

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 9/8/2017 1:42:42 PM  
**To:** Bussard, David [Bussard.David@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]  
**Subject:** Re: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

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**From:** Bussard, David  
**Sent:** Thursday, September 7, 2017 9:22 PM  
**To:** Kraft, Andrew; Glenn, Barbara; Ramasamy, Santhini  
**Subject:** FW: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

See below.

# Deliberative Process / Ex. 5

David

---

**From:** Bahadori, Tina  
**Sent:** Thursday, August 31, 2017 12:07 PM  
**To:** Ross, Mary <Ross.Mary@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

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**From:** Ross, Mary  
**Sent:** Thursday, August 31, 2017 12:05 PM  
**To:** Bussard, David <Bussard.David@epa.gov>; Bahadori, Tina <Bahadori.Tina@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

**From:** Bussard, David

**Sent:** Thursday, August 31, 2017 12:00 PM

**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>

**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

David

**From:** Bahadori, Tina

**Sent:** Thursday, August 31, 2017 11:49 AM

**To:** Ross, Mary <Ross.Mary@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>

**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

### Deliberative Process / Ex. 5

**From:** Ross, Mary

**Sent:** Thursday, August 31, 2017 11:48 AM

**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>

**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

### Deliberative Process / Ex. 5

**From:** Bahadori, Tina

**Sent:** Thursday, August 31, 2017 11:46 AM

**To:** Ross, Mary <Ross.Mary@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>

**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

**From:** Ross, Mary

**Sent:** Thursday, August 31, 2017 11:35 AM

**To:** Lavoie, Emma <[Lavoie.Emma@epa.gov](mailto:Lavoie.Emma@epa.gov)>; Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Bahadori, Tina <[Bahadori.Tina@epa.gov](mailto:Bahadori.Tina@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Thayer, Kris <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>

**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

**From:** Lavoie, Emma

**Sent:** Thursday, August 31, 2017 10:56 AM

**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Bahadori, Tina <[Bahadori.Tina@epa.gov](mailto:Bahadori.Tina@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Thayer, Kris <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>

**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

-Emma

Emma T. Lavoie, PhD  
Tel: 703-347-0328

**From:** Bussard, David

**Sent:** Thursday, August 31, 2017 8:30 AM

**To:** Bahadori, Tina <[Bahadori.Tina@epa.gov](mailto:Bahadori.Tina@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Lavoie, Emma <[Lavoie.Emma@epa.gov](mailto:Lavoie.Emma@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Thayer, Kris <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>

**Subject:** Fwd: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

One attempt to craft a response is in email below.

David Bussard

Begin forwarded message:

**From:** "Jones, Samantha" <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>  
**Date:** August 30, 2017 at 11:48:38 PM EDT  
**To:** "Bussard, David" <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>, "Birchfield, Norman" <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>, "Ramasamy, Santhini" <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>, "D'Amico, Louis" <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>, "Glenn, Barbara" <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>, "Hagerthey, Scot" <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

Samantha

---

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:28 AM  
**To:** Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

---

**From:** Jones, Samantha  
**Sent:** Wednesday, August 30, 2017 10:14 AM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

Samantha Jones, PhD  
NCEA Associate Director for Health (acting)  
HHRA Interim Deputy National Program Director  
USEPA, ORD/NCEA  
703-347-8580

---

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:10 AM

**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>  
**Subject:** FW: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

This is likely “a Tina issue”, but let’s see if we can generate a recommendation or some options.

Is this a possible response?

# Deliberative Process / Ex. 5

David

---

**From:** Kraft, Andrew  
**Sent:** Wednesday, August 30, 2017 8:04 AM  
**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>  
**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

I'm guessing we will need a fairly quick and succinct response. Please forward as appropriate.  
-Andrew

---

**From:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>  
**Sent:** Tuesday, August 29, 2017 7:59 AM  
**To:** Kraft, Andrew  
**Cc:** Els Smit; Paul Janssen; Joke Herremans  
**Subject:** Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,

My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.

We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response"

([https://cfpub.epa.gov/ncea/iris\\_drafts/recordisplay.cfm?deid=223614](https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614)), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

## IRIS Toxicological Review of Formaldehyde (Inhalation ...

[cfpub.epa.gov](https://cfpub.epa.gov)

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010 Federal Register Notice. This draft assessment is ...

Kind regards

Lidka

Lidka Maslankiewicz

National Institute for Public Health and the Environment (RIVM)

Centre for Safety of Substances and Products

tel. 31 (0)30 2743160

+31 6 46 86 07 73

fax. 31 (0)30 2744401

e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden en het bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook, die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.  
[www.rivm.nl](http://www.rivm.nl) *De zorg voor morgen begint vandaag*

RIVM

[www.rivm.nl](http://www.rivm.nl)

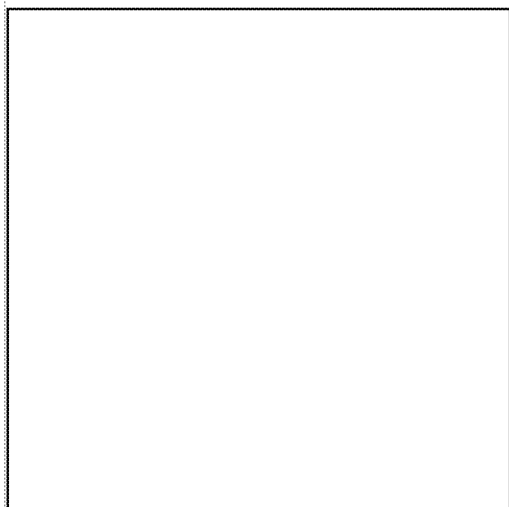
Dit Nederlandse overheidsinstituut verzorgt informatie, monitoring en wetenschappelijke onderbouwing van het volksgezondheidsbeleid. Ook valt het informatiecentrum ...

This message may contain information that is not intended for you. If you are not the addressee or if this message was sent to you by mistake, you are requested to inform the sender and delete the



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[www.rivm.nl/en](http://www.rivm.nl/en) Committed to *health and sustainability*



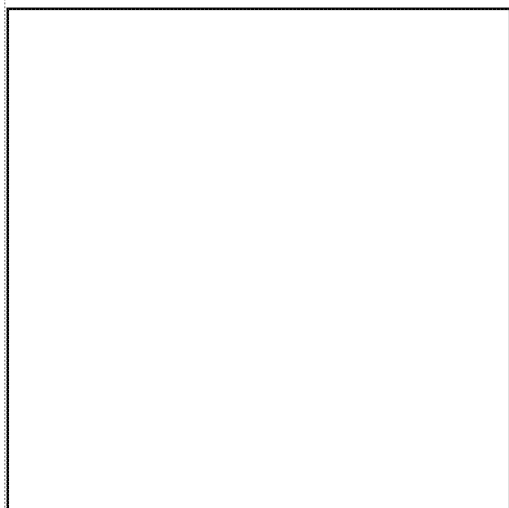
Rijksinstituut  
voor  
Volksgezondheid  
en Milieu - RIVM

[www.rivm.nl](http://www.rivm.nl)

Substances of very high  
concern hamper  
recycling. Substances of  
very high concern  
(SVHC) can hamper the  
safe recycling of waste  
streams in the  
Netherlands.

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of  
dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden en het  
bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook,  
die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.

[www.rivm.nl](http://www.rivm.nl) *De zorg voor morgen begint vandaag*



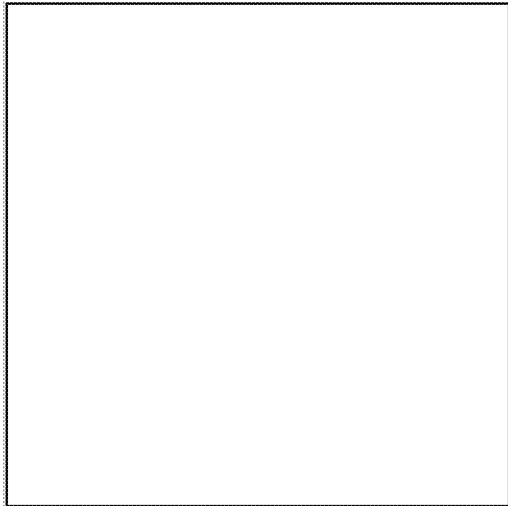
RIVM

[www.rivm.nl](http://www.rivm.nl)

Dit Nederlandse  
overheidsinstituut  
verzorgt informatie,  
monitoring en  
wetenschappelijke  
onderbouwing van het  
volksgezondheidsbeleid.  
Ook valt het  
informatiecentrum ...

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this message was sent to you by mistake, you are requested to inform the sender and delete the  
message. RIVM accepts no liability for damage of any kind resulting from the risks inherent in the  
electronic transmission of messages.

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Rijksinstituut  
voor  
Volksgezondheid  
en Milieu - RIVM

[www.rivm.nl](http://www.rivm.nl)

Substances of very high  
concern hamper  
recycling. Substances of  
very high concern  
(SVHC) can hamper the  
safe recycling of waste  
streams in the  
Netherlands.

Message

---

**From:** Soto, Vicki [Soto.Vicki@epa.gov]  
**Sent:** 6/14/2018 2:11:50 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Actually you can use their names – their emails are on the meeting invite from yesterday.  
Vicki

---

**From:** Kraft, Andrew  
**Sent:** Thursday, June 14, 2018 10:11 AM  
**To:** Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Okay, we'll send it over this afternoon or tomorrow (to the addresses they provided below, I assume?) and cc you.

---

**From:** Soto, Vicki  
**Sent:** Thursday, June 14, 2018 10:09 AM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Of course, that is not a problem. You can just send it right to them and copy me.

---

**From:** Kraft, Andrew  
**Sent:** Thursday, June 14, 2018 9:24 AM  
**To:** Soto, Vicki <Soto.Vicki@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Vicki,

# Deliberative Process / Ex. 5

Thanks!

---

**From:** Soto, Vicki  
**Sent:** Wednesday, June 13, 2018 6:31 PM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** Fwd: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Can you try adding them?

Sent from my iPhone

Begin forwarded message:

**From:** "Carter, Greg" <[Greg.Carter@icf.com](mailto:Greg.Carter@icf.com)>

**Date:** June 13, 2018 at 6:04:10 PM EDT

**To:** "Soto, Vicki" <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>

**Cc:** "Samuels, Crystal" <[Samuels.Crystal@epa.gov](mailto:Samuels.Crystal@epa.gov)>, "Kraft, Andrew" <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>, "Glenn, Barbara" <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>

**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks Vicki,

I think these are the email addresses you need to use:

**Personal Matters / Ex. 6**

Greg



Greg Carter | Senior Manager | +1.919.293.1669 | [Greg.Carter@icf.com](mailto:Greg.Carter@icf.com) | [icf.com](http://icf.com)  
ICF | 2635 Meridian Parkway, Suite 200, Durham, NC 27713, USA

---

**From:** Soto, Vicki [<mailto:Soto.Vicki@epa.gov>]

**Sent:** Wednesday, June 13, 2018 4:43 PM

**To:** Carter, Greg <[Greg.Carter@icf.com](mailto:Greg.Carter@icf.com)>

**Cc:** Samuels, Crystal <[Samuels.Crystal@epa.gov](mailto:Samuels.Crystal@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Soto, Vicki <[Soto.Vicki@epa.gov](mailto:Soto.Vicki@epa.gov)>

**Subject:** work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Greg,

Attached is the work request form for Formaldehyde. Please look it over and let me know if I missed anything. Send me your "email" addresses and we will get you access to the files. I forgot to put "add line numbers" in the documents also. Format document as an Agency Review draft.

Thanks!

Vicki

**Deliberative Process / Ex. 5**

# Deliberative Process / Ex. 5

---

Vicki Soto | 202-564-3077 | [soto.vicki@epa.gov](mailto:soto.vicki@epa.gov)  
ORD/NCEA/IRISD

**Mailing Address:**

USEPA Headquarters | William Jefferson Clinton Building | 1200 Pennsylvania Avenue, N.W. | MC: 8602R |  
Washington, DC 20460

**Delivery Address:**

USEPA Headquarters | William Jefferson Clinton Building | 1300 Pennsylvania Avenue, N.W. | MC: 8602R |  
Washington, DC 20460

Message

---

**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 9/8/2017 1:18:28 AM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]  
**Subject:** FW: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

David

---

**From:** Ramasamy, Santhini  
**Sent:** Thursday, September 07, 2017 5:39 PM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Cc:** Bussard, David <Bussard.David@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** Re: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

My understanding is that Tina's office is responding.

Sent from my iPhone

On 7 Sep 2017, at 14:49, Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)> wrote:

Any movement on this? We should probably craft a response sooner rather than later...

---

**From:** Bussard, David  
**Sent:** Thursday, August 31, 2017 8:30 AM  
**To:** Bahadori, Tina <[Bahadori.Tina@epa.gov](mailto:Bahadori.Tina@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Lavoie, Emma <[Lavoie.Emma@epa.gov](mailto:Lavoie.Emma@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Thayer, Kris <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>  
**Subject:** Fwd: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

David Bussard

Begin forwarded message:

**From:** "Jones, Samantha" <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>  
**Date:** August 30, 2017 at 11:48:38 PM EDT  
**To:** "Bussard, David" <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>, "Birchfield, Norman" <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>, "Ramasamy, Santhini" <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>, "D'Amico, Louis" <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>, "Glenn, Barbara" <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>, "Hagerthey, Scot" <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

Samantha

---

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:28 AM  
**To:** Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

---

**From:** Jones, Samantha  
**Sent:** Wednesday, August 30, 2017 10:14 AM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

Samantha Jones, PhD  
NCEA Associate Director for Health (acting)  
HHRA Interim Deputy National Program Director  
USEPA, ORD/NCEA  
703-347-8580

---

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:10 AM  
**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>  
**Subject:** FW: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

David

---

**From:** Kraft, Andrew  
**Sent:** Wednesday, August 30, 2017 8:04 AM  
**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>  
**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)



I'm guessing we will need a fairly quick and succinct response. Please forward as appropriate.

-Andrew

---

**From:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>

**Sent:** Tuesday, August 29, 2017 7:59 AM

**To:** Kraft, Andrew

**Cc:** Els Smit; Paul Janssen; Joke Herremans

**Subject:** Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,

My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.

We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response" ([https://cfpub.epa.gov/ncea/iris\\_drafts/recordisplay.cfm?deid=223614](https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614)), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

---

IRIS Toxicological Review of Formaldehyde (Inhalation ...

[cfpub.epa.gov](https://cfpub.epa.gov)

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2017 Federal Register Notice. This draft assessment is ...

Kind regards

Lidka

Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
tel. 31 (0)30 2743160  
+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden.

melden en het bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook, die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.

[www.rivm.nl](http://www.rivm.nl) De zorg voor morgen begint vandaag

<image001.jpg>

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[www.rivm.nl](http://www.rivm.nl)

Dit Nederlandse overheidsinstituut verzorgt informatie monitoring en wetenschappelijk onderzoek voor de volksgezondheid. Ook valt het informatiecentrum

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<image002.jpg>

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[www.rivm.nl](http://www.rivm.nl)

Substances of very high concern hamper recycling. Substances of very high concern (SVHC) can hamper safe recycling of waste streams in the Netherlands.

Dit bericht kan informatie bevatten die niet voor u is bestemd. Indien u niet de geadresseerde bent of dit bericht abusievelijk aan u is verzonden, wordt u verzocht dat aan de afzender te melden en het bericht te verwijderen. Het RIVM aanvaardt geen aansprakelijkheid voor schade, van welke aard ook, die verband houdt met risico's verbonden aan het elektronisch verzenden van berichten.

[www.rivm.nl](http://www.rivm.nl) De zorg voor morgen begint vandaag

<image001.jpg>

RIVM

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[www.rivm.nl/en](http://www.rivm.nl/en) Committed to *health and sustainability*

<image002.jpg>

Rijksinstituut voor Volksgezondheid en Milieu - RIVM

[www.rivm.nl](http://www.rivm.nl)

Substances of very high concern hamper recycling. Substances of very high concern (SVHC) can hamper

safe recycling of  
streams in the  
Netherlands.

Message

---

**From:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]  
**Sent:** 3/23/2017 7:46:21 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: animal d-r section attached  
**Attachments:** Main SCC d-r-03-23-17ak.rs.docx

**Importance:** High

Andrew:

## Deliberative Process / Ex. 5

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.  
Room PYS-11782/ Ph: (703) 347-8606 (o); (571) 305-3601 (m)

---

**From:** Kraft, Andrew  
**Sent:** Thursday, March 23, 2017 2:43 PM  
**To:** Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** RE: animal d-r section attached

Ravi,

## Deliberative Process / Ex. 5

Please let me know if you think this is reasonable (I think it is in the ballpark).  
-Andrew

---

**From:** Subramaniam, Ravi  
**Sent:** Thursday, March 23, 2017 10:05 AM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** animal d-r section attached  
**Importance:** High

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.  
Room PYS-11782/ Ph: (703) 347-8606 (o); (571) 305-3601 (m)

Message

---

**From:** Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]  
**Sent:** 9/7/2017 9:38:38 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**CC:** Bussard, David [Bussard.David@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** Re: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

My understanding is that Tina's office is responding.

Sent from my iPhone

On 7 Sep 2017, at 14:49, Kraft, Andrew <Kraft.Andrew@epa.gov> wrote:

Any movement on this? We should probably craft a response sooner rather than later...

---

**From:** Bussard, David  
**Sent:** Thursday, August 31, 2017 8:30 AM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>  
**Subject:** Fwd: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

David Bussard

Begin forwarded message:

**From:** "Jones, Samantha" <Jones.Samantha@epa.gov>  
**Date:** August 30, 2017 at 11:48:38 PM EDT  
**To:** "Bussard, David" <Bussard.David@epa.gov>, "Birchfield, Norman" <Birchfield.Norman@epa.gov>, "Ramasamy, Santhini" <Ramasamy.Santhini@epa.gov>, "D'Amico, Louis" <DAmico.Louis@epa.gov>, "Glenn, Barbara" <Glenn.Barbara@epa.gov>, "Hagerthey, Scot" <Hagerthey.Scot@epa.gov>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

## Deliberative Process / Ex. 5

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:28 AM  
**To:** Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

**From:** Jones, Samantha  
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**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

Samantha Jones, PhD  
NCEA Associate Director for Health (acting)  
HHRA Interim Deputy National Program Director  
USEPA, ORD/NCEA  
703-347-8580

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:10 AM  
**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>  
**Subject:** FW: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

David

---

**From:** Kraft, Andrew  
**Sent:** Wednesday, August 30, 2017 8:04 AM  
**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>  
**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

I'm guessing we will need a fairly quick and succinct response. Please forward as appropriate.

-Andrew

---

**From:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>  
**Sent:** Tuesday, August 29, 2017 7:59 AM  
**To:** Kraft, Andrew  
**Cc:** Els Smit; Paul Janssen; Joke Herremans  
**Subject:** Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,



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## IRIS Toxicological Review of Formaldehyde (Inhalation ...

[cfpub.epa.gov](https://cfpub.epa.gov)

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2 Federal Register Notice. This draft assessment is ...

Kind regards

Lidka

Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
tel. 31 (0)30 2743160  
+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

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<image001.jpg>

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<image002.jpg>

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Substances of very  
high concern hamper  
recycling. Substances  
of very high concern  
(SVHC) can hamper  
safe recycling of  
streams in the  
Netherlands.

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concern hamper  
recycling. Substances  
very high concern  
(SVHC) can hamper  
safe recycling of waste  
streams in the  
Netherlands.

Message

---

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 9/7/2017 6:49:16 PM  
**To:** Bussard, David [Bussard.David@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

Any movement on this? We should probably craft a response sooner rather than later...

---

**From:** Bussard, David  
**Sent:** Thursday, August 31, 2017 8:30 AM  
**To:** Bahadori, Tina <Bahadori.Tina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Lavoie, Emma <Lavoie.Emma@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Thayer, Kris <thayer.kris@epa.gov>  
**Subject:** Fwd: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

Begin forwarded message:

**From:** "Jones, Samantha" <Jones.Samantha@epa.gov>  
**Date:** August 30, 2017 at 11:48:38 PM EDT  
**To:** "Bussard, David" <Bussard.David@epa.gov>, "Birchfield, Norman" <Birchfield.Norman@epa.gov>, "Ramasamy, Santhini" <Ramasamy.Santhini@epa.gov>, "D'Amico, Louis" <DAmico.Louis@epa.gov>, "Glenn, Barbara" <Glenn.Barbara@epa.gov>, "Hagerthey, Scot" <Hagerthey.Scot@epa.gov>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

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**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:28 AM

**To:** Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

**From:** Jones, Samantha  
**Sent:** Wednesday, August 30, 2017 10:14 AM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

Samantha Jones, PhD  
NCEA Associate Director for Health (acting)  
HHRA Interim Deputy National Program Director  
USEPA, ORD/NCEA  
703-347-8580

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:10 AM  
**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>  
**Subject:** FW: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

David

---

**From:** Kraft, Andrew  
**Sent:** Wednesday, August 30, 2017 8:04 AM  
**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>  
**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

I'm guessing we will need a fairly quick and succinct response. Please forward as appropriate.

-Andrew

---

**From:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>  
**Sent:** Tuesday, August 29, 2017 7:59 AM  
**To:** Kraft, Andrew  
**Cc:** Els Smit; Paul Janssen; Joke Herremans  
**Subject:** Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,

My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.

We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response" ([https://cfpub.epa.gov/ncea/iris\\_drafts/recordisplay.cfm?deid=223614](https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614)), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

# IRIS Toxicological Review of Formaldehyde (Inhalation ...

[cfpub.epa.gov](http://cfpub.epa.gov)

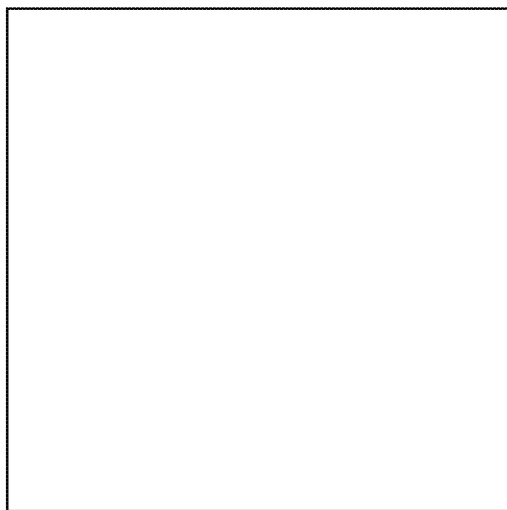
EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010 Federal Register Notice. This draft assessment is ...

Kind regards

Lidka

Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
tel. 31 (0)30 2743160  
+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

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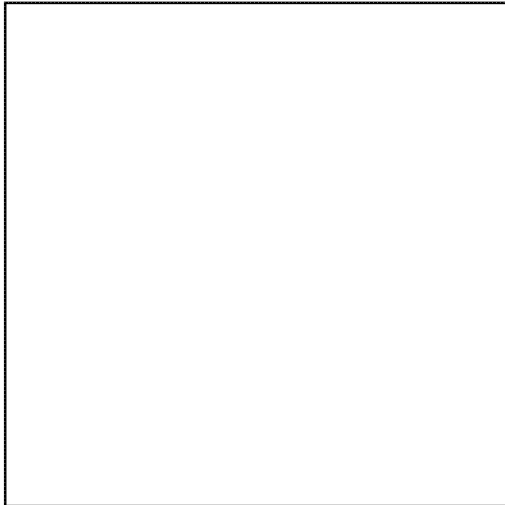


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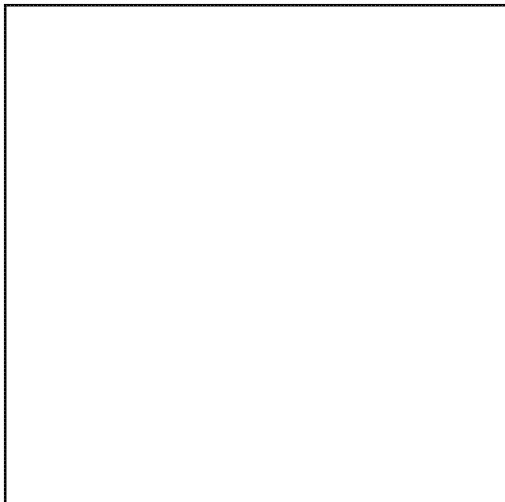


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verbonden aan het elektronisch verzenden van berichten.  
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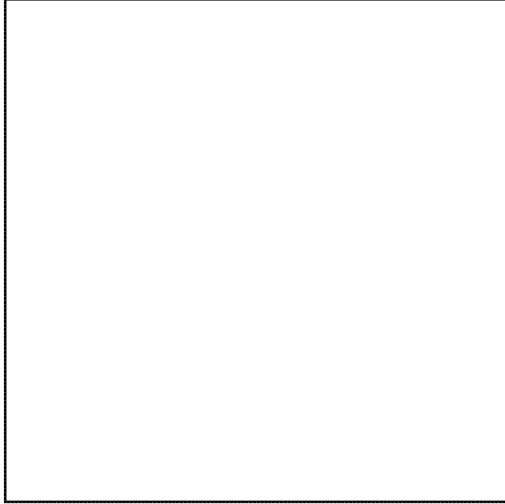
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recycling. Substances of  
very high concern  
(SVHC) can hamper the  
safe recycling of waste  
streams in the  
Netherlands.

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Message

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**From:** Carter, Greg [Greg.Carter@icf.com]  
**Sent:** 6/13/2018 10:04:10 PM  
**To:** Soto, Vicki [Soto.Vicki@epa.gov]  
**CC:** Samuels, Crystal [Samuels.Crystal@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Thanks Vicki,

I think these are the email addresses you need to use:

**Personal Matters / Ex. 6**

Greg



Greg Carter | Senior Manager | +1.919.293.1669 | [Greg.Carter@icf.com](mailto:Greg.Carter@icf.com) | [icf.com](http://icf.com)  
ICF | 2635 Meridian Parkway, Suite 200, Durham, NC 27713, USA

---

**From:** Soto, Vicki [mailto:Soto.Vicki@epa.gov]  
**Sent:** Wednesday, June 13, 2018 4:43 PM  
**To:** Carter, Greg <Greg.Carter@icf.com>  
**Cc:** Samuels, Crystal <Samuels.Crystal@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Soto, Vicki <Soto.Vicki@epa.gov>  
**Subject:** work request Task 1 WA 4-17 - IRIS Toxicological Review of Formaldehyde

Hi Greg,

Attached is the work request form for Formaldehyde. Please look it over and let me know if I missed anything. Send me your "email" addresses and we will get you access to the files. I forgot to put "add line numbers" in the documents also. Format document as an Agency Review draft.

Thanks!  
Vicki

**Deliberative Process / Ex. 5**

# Deliberative Process / Ex. 5

---

Vicki Soto | 202-564-3077 | [soto.vicki@epa.gov](mailto:soto.vicki@epa.gov)  
ORD/NCEA/IRISD

Mailing Address:

USEPA Headquarters | William Jefferson Clinton Building | 1200 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

Delivery Address:

USEPA Headquarters | William Jefferson Clinton Building | 1300 Pennsylvania Avenue, N.W. | MC: 8602R | Washington, DC 20460

Message

---

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 3/23/2017 6:43:27 PM  
**To:** Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** RE: animal d-r section attached  
**Attachments:** Main SCC d-r-03-23-17ak.docx

Ravi,

## Deliberative Process / Ex. 5

Please let me know if you think this is reasonable (I think it is in the ballpark).  
-Andrew

---

**From:** Subramaniam, Ravi  
**Sent:** Thursday, March 23, 2017 10:05 AM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** animal d-r section attached  
**Importance:** High

--Ravi.

Ravi Subramaniam, PhD / Chief, Toxic Effects Branch-IRIS, NCEA-ORD, EPA.  
Room PYS-11782/ **Ph: (703) 347-8606 (o); (571) 305-3601 (m)**

Message

---

**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 4/9/2018 6:53:46 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]  
**Subject:** Fwd: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Resending. I meant to send to all three of you.

David Bussard

Begin forwarded message:

**From:** "Bussard, David" <Bussard.David@epa.gov>  
**Date:** April 9, 2018 at 2:53:03 PM EDT  
**To:** "Kraft, Andrew" <Kraft.Andrew@epa.gov>  
**Subject:** Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

David Bussard

On Apr 9, 2018, at 1:14 PM, Kraft, Andrew <Kraft.Andrew@epa.gov> wrote:

---

**From:** Lidka Maslankiewicz <lidka.maslankiewicz@rivm.nl>  
**Sent:** Monday, April 9, 2018 8:19 AM  
**To:** Glenn, Barbara; Kraft, Andrew  
**Cc:** Theo Vermeire; Paul Janssen; Joke Herremans; Els Smit  
**Subject:** RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Barbara and Andrew,

Thank you for your answer!

10<sup>th</sup> of May, 9:00 EDT (15:00 CET) is also the best time for us. I will send you the invitation today.

Could you, please, supply the specific points you would like to discuss; our main issues you can find in the mail from 11/22/2017 (below). I would like to prepare a preliminary agenda for this TC; you will get this ASAP for comments and additions.

Kind regards

Lidka

Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
Antonie van Leeuwenhoeklaan 9 | 3721 MA Bilthoven  
Postbus 1 | 3720 BA Bilthoven  
tel. 31 (0)30 2743160  
+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

From: "Glenn, Barbara" <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
To: "Kraft, Andrew" <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>, Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>,  
Cc: Theo Vermeire <[theo.vermeire@rivm.nl](mailto:theo.vermeire@rivm.nl)>, Paul Janssen <[paul.janssen@rivm.nl](mailto:paul.janssen@rivm.nl)>, Joke Herremans <[joke.herremans@rivm.nl](mailto:joke.herremans@rivm.nl)>, Els Smit <[els.smit@rivm.nl](mailto:els.smit@rivm.nl)>  
Date: 04/09/2018 02:03 PM  
Subject: RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

---

Hello,  
I'm available on the 10<sup>th</sup> and possibly April 19<sup>th</sup>. May 10<sup>th</sup> may be best because there may be others interested from here.  
Thanks for getting in touch with us.  
Regards, Barbara

**From:** Kraft, Andrew  
**Sent:** Monday, April 09, 2018 7:53 AM  
**To:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Cc:** Theo Vermeire <[theo.vermeire@rivm.nl](mailto:theo.vermeire@rivm.nl)>; Paul Janssen <[paul.janssen@rivm.nl](mailto:paul.janssen@rivm.nl)>; Joke Herremans <[joke.herremans@rivm.nl](mailto:joke.herremans@rivm.nl)>; Els Smit <[els.smit@rivm.nl](mailto:els.smit@rivm.nl)>  
**Subject:** Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Hi Lidka,

Good to hear from you. We are still interested in having a discussion.

Of the times you proposed, the only one I currently have available is May 10th. If that does not work for someone else, I can probably move something to make April 19th work. The other 2 times are probably not possible.

I look forward to our discussion.

-Andrew

---

**From:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>  
**Sent:** Monday, April 9, 2018 4:50 AM  
**To:** Glenn, Barbara; Kraft, Andrew  
**Cc:** Theo Vermeire; Paul Janssen; Joke Herremans; Els Smit  
**Subject:** Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Barbara and Andrew,

Please, let us know if you are still interested in the discussion on formaldehyde assessment. The topics mentioned in our previous mail are still of interest for us.

We would like to propose the following dates and times for a telephone conference:

12<sup>th</sup> and 19<sup>th</sup> of April 2018, 9 – 10 am EST (15:00 – 16:00 our time), or

2<sup>nd</sup> and 10<sup>th</sup> of May 2018, 9 – 10 am EST (15:00 – 16:00 our time).

If you prefer different dates or times, please, let us know.

We hope to hear from you soon.

Kind regards

Lidka

Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
Antonie van Leeuwenhoeklaan 9 | 3721 MA Bilthoven  
Postbus 1 | 3720 BA Bilthoven  
tel. 31 (0)30 2743160  
+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

----- Forwarded by Lidka Maslankiewicz/RIVM/NL on 04/09/2018 10:48 AM -----

From: Lidka Maslankiewicz/RIVM/NL  
To: "Glenn, Barbara" <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>,  
Cc: "Bussard, David" <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>, "D'Amico, Louis" <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>, Els Smit <[els.smit@rivm.nl](mailto:els.smit@rivm.nl)>, Joke Herremans <[joke.herremans@rivm.nl](mailto:joke.herremans@rivm.nl)>, "Kraft, Andrew" <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>, Paul Janssen <[paul.janssen@rivm.nl](mailto:paul.janssen@rivm.nl)>, "Thayer, Kris" <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>, Theo Vermeire <[theo.vermeire@rivm.nl](mailto:theo.vermeire@rivm.nl)>  
Date: 11/22/2017 04:32 PM  
Subject: RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

---

Dear Barbara and Andrew,

It is our turn to apologize for a delay.

Yes, we would be very interested to talk about the formaldehyde assessment and its methods for quantification of cancer risk for NPC. As I have already informed you, we are currently in the process of updating our national air limit for this chemical and we would like to use the data as presented in the 2010 draft, more specifically the quantification of cancer risks for NPC (Nasopharyngeal Cancer), based either on human data and on animal data as presented in this Draft.

We would appreciate the opportunity to discuss the current status of the IRIS Toxicological Review of Formaldehyde.

We are also interested if there is any possibility to use the data (especially derived inhalation cancer unit risk for NPC (Nasopharyngeal Cancer)), without referring as to an official EPA position, but rather a scientific approach.

We have noted that in 2014 US-EPA convened a workshop ([https://www.epa.gov/sites/production/files/2014-12/documents/formaldehyde\\_workshop\\_agenda\\_final.pdf](https://www.epa.gov/sites/production/files/2014-12/documents/formaldehyde_workshop_agenda_final.pdf)), the topics of which were the endogenous formation of formaldehyde and its relation to formaldehyde toxicity and the mechanistic evidence for lymphohematopoietic cancer induction by formaldehyde. Any further information on these topics and on the envisaged timeline for finalization of the US-EPA IRIS evaluation would be very welcome.

April 30th to May 1st, 2014 Crystal City Marriott at ...

[www.epa.gov](http://www.epa.gov)

Luoping Zhang, University of California at Berkeley, discussant Robert Snyder, Rutgers University (retired), discussant Martha Sandy, California EPA, discussant

We also would like to know, how will US-EPA react to the comments of NAS (especially their comments on the calculation of the unit risks)? Moreover, will the unit risk calculation change in the near future?

Here are several dates we would like to propose:

13<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup> or 22<sup>nd</sup> of December 2017, 9 – 10 am EST (15:00 – 16:00 our time), or

17<sup>th</sup>, 18<sup>th</sup>, 24<sup>th</sup> or 25<sup>th</sup> of January 2018, 9 – 10 am EST (15:00 – 16:00 our time).

We hope to hear from you soon.

Kind regards

Lidka

Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
tel. 31 (0)30 2743160



+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

From: "Glenn, Barbara" <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
To: Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>, "Kraft, Andrew" <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>,  
Cc: "Bussard, David" <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>, "D'Amico, Louis" <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>, Els Smit  
<[els.smit@rivm.nl](mailto:els.smit@rivm.nl)>, Joke Herremans <[joke.herremans@rivm.nl](mailto:joke.herremans@rivm.nl)>, Paul Janssen <[paul.janssen@rivm.nl](mailto:paul.janssen@rivm.nl)>, "Thayer,  
Kris" <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>, Theo Vermeire <[theo.vermeire@rivm.nl](mailto:theo.vermeire@rivm.nl)>  
Date: 10/10/2017 04:48 PM  
Subject: RE: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

---

Dear Lidka,

We would like to schedule a time to talk about the formaldehyde assessment and its methods for quantification of cancer risk for NPC. It would be great to explore what might be possible. I have some proposed dates and times for you to select from. Will this be possible for you?

Oct. 30 9 – 10 am EST

Nov 1 9 – 10 am EST

Nov 7 9 – 10 am EST

Thank you very much for your patience with our process and timing. Regards, Barbara and Andrew

**From:** Lidka Maslankiewicz [<mailto:lidka.maslankiewicz@rivm.nl>]  
**Sent:** Friday, September 22, 2017 4:54 AM  
**To:** Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>  
**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Els Smit <[els.smit@rivm.nl](mailto:els.smit@rivm.nl)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Joke Herremans <[joke.herremans@rivm.nl](mailto:joke.herremans@rivm.nl)>; Paul Janssen <[paul.janssen@rivm.nl](mailto:paul.janssen@rivm.nl)>; Thayer, Kris <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>; Theo Vermeire <[theo.vermeire@rivm.nl](mailto:theo.vermeire@rivm.nl)>  
**Subject:** Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Andrew and Barbara

Thank you for your reply, apologies for not answering sooner.

The issue is that we would like to use the data as presented in the 2010 Draft, more specifically the quantification of cancer risks for NPC (Nasopharyngeal Cancer), based either on human data and on animal data.

From your mail, we understand that the information is not to be cited as the EPA position. That was not our intention, but rather we want to include the unit risks as a scientific approach that has been developed and that we need to take on board.

Could it be possible to use the information, if we explicitly include a disclaimer?  
Something in line with: *"It should be noted that the methodology used for the quantification of cancer risk for NPC (Nasopharyngeal Cancer), has not been formalised and should not be seen as the official position of the EPA. From a scientific viewpoint, however, we consider this approach as valid and use unit risk to derive the Maximum Permissible Risk (MPR)."*

We also noted that in 2014 US-EPA convened a workshop ([https://www.epa.gov/sites/production/files/2014-12/documents/formaldehyde\\_workshop\\_agenda\\_final.pdf](https://www.epa.gov/sites/production/files/2014-12/documents/formaldehyde_workshop_agenda_final.pdf)), the topics of which were the endogenous formation of formaldehyde and its relation to formaldehyde toxicity and the mechanistic evidence for lymphohematopoietic cancer induction by formaldehyde. Any further information on these topics and on the envisaged timeline for finalization of the US-EPA IRIS evaluation would be very welcome.

Maybe we can first do the exchange via mail and decide later on if a telephone conference is useful.

Kind regards

Lidka

Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
tel. 31 (0)30 2743160  
+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

From: "Kraft, Andrew" <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>  
To: Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>,  
Cc: Els Smit <[els.smit@rivm.nl](mailto:els.smit@rivm.nl)>, Paul Janssen <[paul.janssen@rivm.nl](mailto:paul.janssen@rivm.nl)>, "Joke Herremans" <[joke.herremans@rivm.nl](mailto:joke.herremans@rivm.nl)>, "Glenn, Barbara" <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>, "D'Amico, Louis" <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>, "Bussard, David" <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>, "Thayer, Kris" <[thayer.kris@epa.gov](mailto:thayer.kris@epa.gov)>  
Date: 09/08/2017 05:21 PM  
Subject: Re: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

---

Hi Lidka,

Barbara (Glenn) and I are the current chemical managers of the formaldehyde assessment . We were hoping we might be able to set up a phone conversation to talk through the current status of the assessment and your questions below? If so, I can send out some type of Google poll or similar to find a time that works for everyone who might want to participate?

I would emphasize to you that the draft you mention was never finalized after it was released for the purposes of peer consultation and review. Thus, it should not be cited as an EPA position. We can explain this in greater detail when we talk.

We look forward to future conversations,  
Andrew and Barbara

---

**From:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>

**Sent:** Tuesday, August 29, 2017 7:59 AM

**To:** Kraft, Andrew

**Cc:** Els Smit; Paul Janssen; Joke Herremans

**Subject:** Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,

My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.

We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response"

([https://cfpub.epa.gov/ncea/iris\\_drafts/recorddisplay.cfm?deid=223614](https://cfpub.epa.gov/ncea/iris_drafts/recorddisplay.cfm?deid=223614)), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

---

IRIS Toxicological Review of Formaldehyde (Inhalation ...

[cfpub.epa.gov](https://cfpub.epa.gov)

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010

Federal Register Notice. This draft assessment is ...

---

Kind regards

Lidka

Lidka Maslankiewicz

National Institute for Public Health and the Environment (RIVM)

Centre for Safety of Substances and Products

tel. 31 (0)30 2743160

+31 6 46 86 07 73

fax. 31 (0)30 2744401

e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

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	<p><u>RIVM</u>  <a href="http://www.rivm.nl">www.rivm.nl</a>  Dit Nederlandse overheidsinstituut verzorgt informatie, monitoring en wetenschappelijke onderbouwing van het volksgezondheidsbeleid. Ook via het informatiecentrum ...</p>

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	<p><u>Rijksinstituut voor Volksgezondheid en Milieu - RIVM</u>  <a href="http://www.rivm.nl">www.rivm.nl</a>  Dutch experts on climate change adaptation join forces. Fourteen Dutch knowledge institutes have joined forces to provide practical, demand-driven policy advice based ...</p>

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Message

---

**From:** Jones, Samantha [Jones.Samantha@epa.gov]  
**Sent:** 8/30/2017 3:56:23 PM  
**To:** Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Ramasamy, Santhini [Ramasamy.Santhini@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Hagerthey, Scot [Hagerthey.Scot@epa.gov]  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

Good point. I have some thoughts and will provide later today.

Thanks for sharing...

Samantha

---

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:28 AM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

---

**From:** Jones, Samantha  
**Sent:** Wednesday, August 30, 2017 10:14 AM  
**To:** Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>  
**Subject:** RE: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

## Deliberative Process / Ex. 5

Samantha Jones, PhD  
NCEA Associate Director for Health (acting)  
HHRA Interim Deputy National Program Director  
USEPA, ORD/NCEA  
703-347-8580

---

**From:** Bussard, David  
**Sent:** Wednesday, August 30, 2017 10:10 AM  
**To:** Birchfield, Norman <Birchfield.Norman@epa.gov>; Ramasamy, Santhini <Ramasamy.Santhini@epa.gov>; D'Amico, Louis <DAmico.Louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>  
**Subject:** FW: Request by RIVM for permission to use the approach and values from IRIS Toxicological Review of Formaldehyde (Inhalation)

# Deliberative Process / Ex. 5

David

---

**From:** Kraft, Andrew

**Sent:** Wednesday, August 30, 2017 8:04 AM

**To:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Ramasamy, Santhini <[Ramasamy.Santhini@epa.gov](mailto:Ramasamy.Santhini@epa.gov)>

**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>

**Subject:** Fw: Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

I'm guessing we will need a fairly quick and succinct response. Please forward as appropriate.

-Andrew

---

**From:** Lidka Maslankiewicz <[lidka.maslankiewicz@rivm.nl](mailto:lidka.maslankiewicz@rivm.nl)>

**Sent:** Tuesday, August 29, 2017 7:59 AM

**To:** Kraft, Andrew

**Cc:** Els Smit; Paul Janssen; Joke Herremans

**Subject:** Request for permission to use data from IRIS Toxicological Review of Formaldehyde (Inhalation)

Dear Dr Kraft,

My name is Lidka Maslankiewicz and I work at the Dutch National Institute for Public Health and the Environment (RIVM). We are currently busy with the update of the Maximum Permissible Risk (MPR) for formaldehyde.

We would like to use the approach and values described in IRIS Toxicological Review of Formaldehyde (Inhalation) (External Review Draft 2010), in particular Volume 3: "Quantitative Assessment, Major Conclusions in the Characterization of Hazard and Dose Response" ([https://cfpub.epa.gov/ncea/iris\\_drafts/recordisplay.cfm?deid=223614](https://cfpub.epa.gov/ncea/iris_drafts/recordisplay.cfm?deid=223614)), to derive MPR value for the Netherlands. Could you, please, inform me, if this could be permitted? Are there more recent versions of this document? If we would be allowed to use your data, how we could refer to the source?

# IRIS Toxicological Review of Formaldehyde (Inhalation ...

cfpub.epa.gov

EPA announces the release of the Toxicological Review of Formaldehyde-Inhalation Assessment in the June 2, 2010 Federal Register Notice. This draft assessment is ...

Kind regards  
Lidka  
Lidka Maslankiewicz  
National Institute for Public Health and the Environment (RIVM)  
Centre for Safety of Substances and Products  
tel. 31 (0)30 2743160  
+31 6 46 86 07 73  
fax. 31 (0)30 2744401  
e-mail: [Lidka.Maslankiewicz@rivm.nl](mailto:Lidka.Maslankiewicz@rivm.nl)

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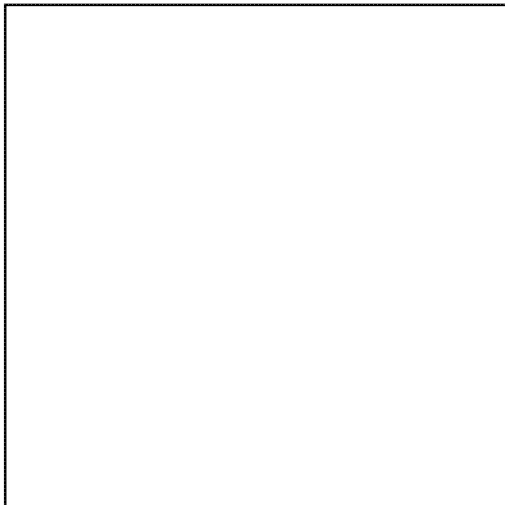
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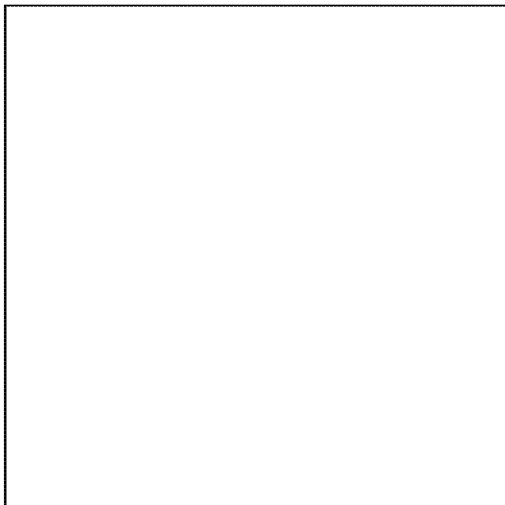
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Volksgezondheid  
en Milieu - RIVM

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(SVHC) can hamper the  
safe recycling of waste  
streams in the  
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[www.rivm.nl](http://www.rivm.nl) *De zorg voor morgen begint vandaag*



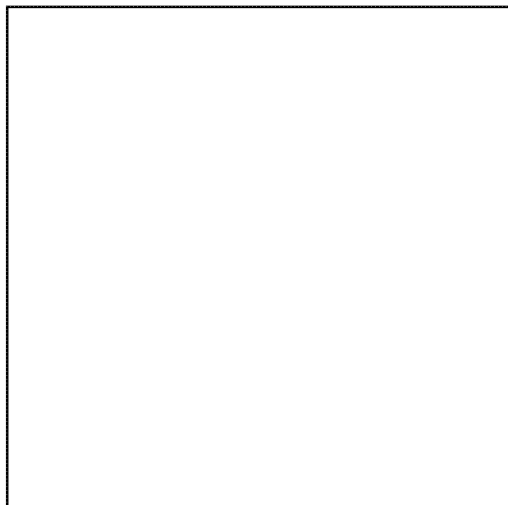
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concern hamper  
recycling. Substances of  
very high concern  
(SVHC) can hamper the  
safe recycling of waste  
streams in the  
Netherlands.

Message

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**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 5/17/2016 9:02:45 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** FW: David's comments on cancer d-r  
**Attachments:** DBcmts(ver4) on FormaldehydeTRdraft050616-jj.docx

I looked at Jennifer's revisions.

# Deliberative Process / Ex. 5

---

**From:** Jinot, Jennifer  
**Sent:** Tuesday, May 17, 2016 1:56 PM  
**To:** Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Cc:** Bussard, David <Bussard.David@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>  
**Subject:** RE: David's comments on cancer d-r

# Deliberative Process / Ex. 5

---

**From:** Glenn, Barbara  
**Sent:** Wednesday, May 11, 2016 3:57 PM  
**To:** Jinot, Jennifer <Jinot.Jennifer@epa.gov>  
**Cc:** Bussard, David <Bussard.David@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** David's comments on cancer d-r

Hi Jennifer,

# Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

Thank you, Barbara

Message

---

**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 5/10/2016 2:14:58 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** FW: lots of comments on UF discussion  
**Attachments:** DBcmts(ver2) on FormaldehydeTRdraft050616.docx

## Deliberative Process / Ex. 5

David

---

**From:** Bussard, David  
**Sent:** Tuesday, May 10, 2016 10:11 AM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** lots of comments on UF discussion

## Deliberative Process / Ex. 5

David A Bussard  
Director, Washington Division  
National Center for Environmental Assessment, NCEA  
ORD, USEPA

Message

---

**From:** Wright, Michael [Wright.Michael@epa.gov]  
**Sent:** 7/19/2016 10:53:14 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Mike Wright [Personal Matters / Ex. 6]  
**Subject:** RE: Formaldehyde ERC review - comments due July 8th  
**Attachments:** Wright July 2016 Comments Formaldehyde.docx; Formaldehyde\_draft Appendices\_ERC\_May2016\_MW.docx; Formaldehyde\_draft Tox Review\_ERC\_May2016\_MW.docx

Greetings:

# Deliberative Process / Ex. 5

Best of luck finishing it up,

Mike

PS: BTW, thanks for the extra time needed to review this.

---

**From:** Wright, Michael  
**Sent:** Thursday, July 14, 2016 6:32 PM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Mike Wright <Personal Matters / Ex. 6>  
**Subject:** RE: Formaldehyde ERC review - comments due July 8th

Hi all:

# Deliberative Process / Ex. 5

Just an update,

Mike

---

**From:** Kraft, Andrew  
**Sent:** Thursday, July 07, 2016 3:01 PM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>; Wright, Michael <Wright.Michael@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Mike Wright <Personal Matters / Ex. 6>  
**Subject:** RE: Formaldehyde ERC review - comments due July 8th

You have a lot of material to get through, Mike. Please just send the compiled version of your complete review when you finish, as we probably won't be getting to it in a piecemeal fashion next week anyway. Also, please don't neglect your guests and work on it on your CWD, especially if you think you will be done next week either way (a week is well within the NCEA margin of error around "on time"). Thanks for reviewing!

---

**From:** Jones, Samantha  
**Sent:** Thursday, July 07, 2016 2:54 PM  
**To:** Wright, Michael <Wright.Michael@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Mike Wright  
<Personal Matters / Ex. 6>  
**Subject:** RE: Formaldehyde ERC review - comments due July 8th

I would suggest next week for more complete version but I will let Barbara or Andrew note if they'd rather see your comments earlier.

Thanks,  
Samantha

---

**From:** Wright, Michael  
**Sent:** Thursday, July 07, 2016 2:52 PM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Mike Wright  
<Personal Matters / Ex. 6>  
**Subject:** RE: Formaldehyde ERC review - comments due July 8th

Samantha:

OK. Thanks for clarifying. I'll keep slogging through it today, a bit tmrw, and next week. Should I send what I have up through tmrw, or just wait until next week to send more completed comments embedded in the Tox Review file? I can also just send a list of my Main/general comments to you 3 tmrw as well if that's preferred?

Thanks,  
Mike

---

**From:** Jones, Samantha  
**Sent:** Thursday, July 07, 2016 2:44 PM  
**To:** Wright, Michael <Wright.Michael@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>  
**Subject:** RE: Formaldehyde ERC review - comments due July 8th

Hi Mike,

Thanks for letting me know! I will say that for the July 12<sup>th</sup> meeting, we will be focusing on overarching comments from John Vandenberg, Lynn Flowers, and Vince Cogliano. So that isn't a specific date for you.

I am hoping to schedule a meeting for reviewers such as you and a number of others to walk through your comments, this would be after the 12<sup>th</sup>.

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

---

**From:** Wright, Michael  
**Sent:** Thursday, July 07, 2016 2:25 PM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>

Cc: Glenn, Barbara <Glenn.Barbara@epa.gov>

Subject: RE: Formaldehyde ERC review - comments due July 8th

Hi Samantha:

Just a heads up that, as expected, I won't be finishing all of formaldehyde Repro/Cancer sections by today. Had hoped to devote most of tmrw (my CWD) to it.. But, we have company in town, so I likely can't carve out more than an hour or two or work on it.

# Deliberative Process / Ex. 5

Mike

---

**From:** Jones, Samantha

**Sent:** Tuesday, June 14, 2016 12:21 PM

**To:** Gibbons, Catherine <Gibbons.Catherine@epa.gov>; Patel, Molini <Patel.Molini@epa.gov>; Hazari, Mehdi <Hazari.Mehdi@epa.gov>; Wright, Michael <Wright.Michael@epa.gov>; Hotchkiss, Andrew <Hotchkiss.Andrew@epa.gov>; Walker, Teneille <Walker.Teneille@epa.gov>; Lee, Janice <Lee.JaniceS@epa.gov>; Arzuaga, Xabier <Arzuaga.Xabier@epa.gov>; White, Paul <White.Paul@epa.gov>; Kopylev, Leonid <Kopylev.Leonid@epa.gov>; Hogan, Karen <Hogan.Karen@epa.gov>; Davis, Allen <Davis.Allen@epa.gov>

**Cc:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Dutton, Steven <Dutton.Steven@epa.gov>; Hawkins, Belinda <Hawkins.Belinda@epa.gov>; Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Stanek, John <Stanek.John@epa.gov>

**Subject:** Formaldehyde ERC review - comments due July 8th

Hi all,

You are receiving this message because you were selected as a reviewer of the draft formaldehyde IRIS assessment, looking at a section (or multiple sections) of the assessment.

In consideration of everyone's schedules and competing priorities, we've settled on a **deadline of Friday, July 8<sup>th</sup> for reviewer comments**. A meeting will be scheduled shortly after the 8<sup>th</sup> to discuss with the broader NCEA Executive Review Committee (ERC) and assessment team any major issues raised in the comments.

Please send your comments to me and the assessment managers, Barbara Glenn and Andrew Kraft by July 8<sup>th</sup>.

Thanks again to all of you for your participation in this important effort!

Samantha

Samantha J. Jones, Ph.D

Acting Associate Director for Health, ORD/NCEA

Phone: (703) 347-8580



Message

---

**From:** Jones, Samantha [Jones.Samantha@epa.gov]  
**Sent:** 6/30/2016 2:05:17 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** FW: Formaldehyde review comments and discussion meeting  
**Attachments:** Formaldehyde\_draft Tox Review\_ERC\_Hazari comments.docx

---

**From:** Hazari, Mehdi  
**Sent:** Thursday, June 30, 2016 10:01 AM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>  
**Subject:** RE: Formaldehyde review comments and discussion meeting

Hi Samantha,

## Deliberative Process / Ex. 5

Please let me know if I can be of further help ☺

Mehdi

Mehdi Saeed Hazari, M.Sc., Ph.D., MT-ASCP  
Physiologist  
National Health and Environmental Effects Research Laboratory  
Environmental Public Health Division  
Environmental Protection Agency  
919.541.4588

---

**From:** Jones, Samantha  
**Sent:** Wednesday, June 29, 2016 5:20 PM  
**To:** Gibbons, Catherine <Gibbons.Catherine@epa.gov>; Patel, Molini <Patel.Molini@epa.gov>; Hazari, Mehdi <Hazari.Mehdi@epa.gov>; Lehmann, Geniece <Lehmann.Geniece@epa.gov>; Wright, Michael <Wright.Michael@epa.gov>; Hotchkiss, Andrew <Hotchkiss.Andrew@epa.gov>; Walker, Teneille <Walker.Teneille@epa.gov>; Arzuaga, Xabier <Arzuaga.Xabier@epa.gov>; Lee, Janice <Lee.JaniceS@epa.gov>; White, Paul <White.Paul@epa.gov>; Kopylev, Leonid <Kopylev.Leonid@epa.gov>; Davis, Allen <Davis.Allen@epa.gov>; Hogan, Karen <Hogan.Karen@epa.gov>; Jarabek, Annie <Jarabek.Annie@epa.gov>  
**Cc:** Flowers, Lynn <Flowers.Lynn@epa.gov>; Vandenberg, John <Vandenberg.John@epa.gov>; Coglian, Vincent <coglian.vincent@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>  
**Subject:** Formaldehyde review comments and discussion meeting

Hi all,

First thank you all for agreeing to participate in this important review step for NCEA. It is greatly appreciated. For those of you in the "to" line in this email, you may recall that the deadline for comments is July 8<sup>th</sup>. I am in the process of

scheduling a discussion meeting so that you all can walk through your major comments with the larger group and the assessment team. Given the number of sections and individual reviewers (see table below), I will likely schedule two meetings grouping reviewers/sections as appropriate. Be on the lookout for meeting invites in the near future.

Please note that prior to contacting each of you, we brought in three primary reviewers (Lynn Flowers, John Vandenberg, and Vince Cogliano) to review the overall assessment. We will be hosting a meeting for them to discuss their comments on Tuesday, July 12<sup>th</sup> from 9:00am to 10:30am. If you would like to sit in as an observer, please let me know.

Thanks again for your commitment and assistance in moving this assessment forward!

Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

Section(s)	Expertise/ Name	Focus
Overall assessment	John Vandenberg Lynn Flowers Vince Cogliano	These are the three primary reviewers, and their focus is on the whole assessment.
Systematic Review Methods and Implementation	Vince Cogliano Catherine Gibbons	Epidemiology/Toxicology and integration Mechanistic and integration
Hazard: Respiratory	Molini Patel Mehdi Hazari Geniece Lehman	Epidemiology Toxicology/Immunotoxicology Toxicology/Immunotoxicology
Hazard: Developmental/ Reproductive Toxicity	Michael Wright Andrew Hotchkiss	Epidemiology Toxicology
Cancer Hazard	Michael Wright Teneille Walker Primary reviewers	Epidemiology Toxicology Toxicology
MOA: Noncancer outcomes	Mehdi Hazari Janice Lee Xabier Arzuaga Teneille Walker	
MOA: URT and LHP Cancer	Catherine Gibbons	
ADME/ Toxicokinetics	Paul White	
Dose-Response (noncancer + cancer)	Leonid Kopylev Allen Davis Karen Hogan	Humans Animals Animals
Dosimetry (BBDR and treatment of Starr)	Annie Jarabek	

Message

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**From:** Lee, Janice [Lee.JaniceS@epa.gov]  
**Sent:** 8/22/2016 7:39:30 PM  
**To:** Chen, Anna [chen.anna@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Arzuaga, Xabier [Arzuaga.Xabier@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** RE: JJV comments on formaldehyde... finally.. through page 249  
**Attachments:** Formaldehyde\_draft Appendices\_ERC\_May2016.docx; Formaldehyde\_draft Tox Review\_ERC\_May2016.docx

Hi Anna,  
Here are the originals that Xabier and I worked off of- May 2016 version.  
Hope this helps!

Janice

---

**From:** Chen, Anna  
**Sent:** Monday, August 22, 2016 3:32 PM  
**To:** Lee, Janice <Lee.JaniceS@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Arzuaga, Xabier <Arzuaga.Xabier@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>  
**Subject:** RE: JJV comments on formaldehyde... finally.. through page 249

Thanks for sending that, Janice. The challenge is that I have compiled so many reviews, some of the line numbers have changed, so it's difficult to reference the comments you've made to the compiled version. Is there any way you can send me the original document you used to make the comments? I figure anyone on this chain may be able to send it; I was a bit apprehensive to look through the sharepoint assessment page to see if the original draft was there.

I'm about to head out for the day, so get it to me whenever you can. Thank you!!  
Anna

---

**From:** Lee, Janice  
**Sent:** Monday, August 22, 2016 3:15 PM  
**To:** Kraft, Andrew <Kraft.Andrew@epa.gov>; Arzuaga, Xabier <Arzuaga.Xabier@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Chen, Anna <chen.anna@epa.gov>  
**Subject:** RE: JJV comments on formaldehyde... finally.. through page 249

Sure, here's the word document of our comments.

Janice

---

**From:** Kraft, Andrew  
**Sent:** Monday, August 22, 2016 2:49 PM  
**To:** Arzuaga, Xabier <Arzuaga.Xabier@epa.gov>; Lee, Janice <Lee.JaniceS@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Chen, Anna <chen.anna@epa.gov>  
**Subject:** Re: JJV comments on formaldehyde... finally.. through page 249

Hi Janice and Xabier,

Can one of you please send Anna (cc'd) a copy of the formaldehyde TR with your comments in Word form rather than pdf form? Anna is compiling a master ERC comment draft for us.

Thanks,  
Andrew

---

**From:** Chen, Anna  
**Sent:** Monday, August 22, 2016 2:45 PM  
**To:** Kraft, Andrew  
**Cc:** Glenn, Barbara; Birchfield, Norman  
**Subject:** RE: JJV comments on formaldehyde... finally.. through page 249

Do any of you have the Lee/Arzuaga Tox Review in word document form, instead of PDF?

---

**From:** Kraft, Andrew  
**Sent:** Monday, August 22, 2016 11:18 AM  
**To:** Chen, Anna <[chen.anna@epa.gov](mailto:chen.anna@epa.gov)>  
**Cc:** Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Walker, Teneille <[Walker.Teneille@epa.gov](mailto:Walker.Teneille@epa.gov)>  
**Subject:** Fw: JJV comments on formaldehyde... finally.. through page 249

Hi Anna,

## Deliberative Process / Ex. 5

Thanks,  
Andrew

---

**From:** Vandenberg, John  
**Sent:** Saturday, August 20, 2016 10:02 AM  
**To:** Kraft, Andrew; Glenn, Barbara; Bussard, David; Jones, Samantha  
**Subject:** JJV comments on formaldehyde... finally.. through page 249

All,

## Deliberative Process / Ex. 5

I'm going on vacation as soon as my wife returns in a few minutes and I'm sending this to partially clear my conscience! I'll be back in the office on Aug 29.

John

John Vandenberg  
National Program Director, Human Health Risk Assessment Program  
Division Director, National Center for Environmental Assessment  
U.S. Environmental Protection Agency  
B243-01  
Research Triangle Park, NC 27711

Message

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**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 5/10/2016 2:12:11 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** lots of comments on UF discussion  
**Attachments:** DBcmts(ver2) on FormaldehydeTRdraft050616.docx

# Deliberative Process / Ex. 5

David A Bussard  
Director, Washington Division  
National Center for Environmental Assessment, NCEA  
ORD, USEPA

Message

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**From:** Jones, Samantha [Jones.Samantha@epa.gov]  
**Sent:** 5/25/2016 12:29:22 AM  
**To:** Olden, Kenneth [Olden.Kenneth@epa.gov]; Vandenberg, John [Vandenberg.John@epa.gov]; Flowers, Lynn [Flowers.Lynn@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]; Perovich, Gina [Perovich.Gina@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Walsh, Debra [Walsh.Debra@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Hagerthey, Scot [Hagerthey.Scot@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Morozov, Viktor [Morozov.Viktor@epa.gov]; Rieth, Susan [Rieth.Susan@epa.gov]; Hotchkiss, Andrew [Hotchkiss.Andrew@epa.gov]; Subramaniam, Ravi [Subramaniam.Ravi@epa.gov]; Stanek, John [Stanek.John@epa.gov]; Lambert, Jason [Lambert.Jason@epa.gov]; Hawkins, Belinda [Hawkins.Belinda@epa.gov]; Johnson, Craig [Johnson.Craig@epa.gov]; Gatchett, Annette [Gatchett.Annette@epa.gov]; Berner, Ted [Berner.Ted@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; White, Paul [White.Paul@epa.gov]  
**Subject:** Formaldehyde: ERC Review  
**Attachments:** Formaldehyde\_draft Appendices\_ERC\_May2016.docx; Formaldehyde\_draft Tox Review\_ERC\_May2016.docx; Formaldehyde\_Issues raised for ERC Issues\_May2016.docx

Hello all,

# Deliberative Process / Ex. 5

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

Message

---

**From:** Lee, Janice [Lee.JaniceS@epa.gov]  
**Sent:** 8/22/2016 7:14:48 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Arzuaga, Xabier [Arzuaga.Xabier@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Chen, Anna [chen.anna@epa.gov]  
**Subject:** RE: JJV comments on formaldehyde... finally.. through page 249  
**Attachments:** Formaldehyde XA JL comments.docx

Sure, here's the word document of our comments.

Janice

---

**From:** Kraft, Andrew  
**Sent:** Monday, August 22, 2016 2:49 PM  
**To:** Arzuaga, Xabier <Arzuaga.Xabier@epa.gov>; Lee, Janice <Lee.JaniceS@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Chen, Anna <chen.anna@epa.gov>  
**Subject:** Re: JJV comments on formaldehyde... finally.. through page 249

Hi Janice and Xabier,

Can one of you please send Anna (cc'd) a copy of the formaldehyde TR with your comments in Word form rather than pdf form? Anna is compiling a master ERC comment draft for us.

Thanks,  
Andrew

---

**From:** Chen, Anna  
**Sent:** Monday, August 22, 2016 2:45 PM  
**To:** Kraft, Andrew  
**Cc:** Glenn, Barbara; Birchfield, Norman  
**Subject:** RE: JJV comments on formaldehyde... finally.. through page 249

Do any of you have the Lee/Arzuaga Tox Review in word document form, instead of PDF?

---

**From:** Kraft, Andrew  
**Sent:** Monday, August 22, 2016 11:18 AM  
**To:** Chen, Anna <chen.anna@epa.gov>  
**Cc:** Glenn, Barbara <Glenn.Barbara@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Walker, Teneille <Walker.Teneille@epa.gov>  
**Subject:** Fw: JJV comments on formaldehyde... finally.. through page 249

Hi Anna,



# Deliberative Process / Ex. 5

Thanks,  
Andrew

---

**From:** Vandenberg, John  
**Sent:** Saturday, August 20, 2016 10:02 AM  
**To:** Kraft, Andrew; Glenn, Barbara; Bussard, David; Jones, Samantha  
**Subject:** JJV comments on formaldehyde... finally.. through page 249

All,

# Deliberative Process / Ex. 5

John

John Vandenberg  
National Program Director, Human Health Risk Assessment Program  
Division Director, National Center for Environmental Assessment  
U.S. Environmental Protection Agency  
B243-01  
Research Triangle Park, NC 27711

Message

---

**From:** Ross, Mary [Ross.Mary@epa.gov]  
**Sent:** 5/13/2016 9:21:39 PM  
**To:** Cogliano, Vincent [cogliano.vincent@epa.gov]; Bussard, David [Bussard.David@epa.gov]  
**CC:** D'Amico, Louis [DAmico.Louis@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: Edits to ACC response?  
**Attachments:** ACC FA Response -BurkeKadeli\_draft1\_DB NB AK MR.docx

# Deliberative Process / Ex. 5

---

**From:** Cogliano, Vincent  
**Sent:** Friday, May 13, 2016 1:02 PM  
**To:** Bussard, David <Bussard.David@epa.gov>  
**Cc:** D'Amico, Louis <DAmico.Louis@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** Re: Edits to ACC response?

# Deliberative Process / Ex. 5

On May 13, 2016, at 12:33, Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)> wrote:

# Deliberative Process / Ex. 5

**From:** D'Amico, Louis  
**Sent:** Friday, May 13, 2016 12:28 PM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>  
**Cc:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Cogliano, Vincent <[cogliano.vincent@epa.gov](mailto:cogliano.vincent@epa.gov)>  
**Subject:** RE: Edits to ACC response?

Here are some comments from vince, who I left off inadvertently. Copying here to get everyone on the same email string.

Thanks, Lou. Here are a few observations.

# Deliberative Process / Ex. 5

--Vince

Louis D'Amico, Ph.D.  
Acting Communications Director, ORD/NCEA  
[damico.louis@epa.gov](mailto:damico.louis@epa.gov)  
O: (703) 347-0344 M: (703) 859-1719

---

**From:** Bussard, David  
**Sent:** Friday, May 13, 2016 12:26 PM  
**To:** Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>  
**Cc:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** RE: Edits to ACC response?

## Deliberative Process / Ex. 5

David

---

**From:** Kraft, Andrew  
**Sent:** Friday, May 13, 2016 11:55 AM  
**To:** Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>  
**Cc:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>  
**Subject:** Re: Edits to ACC response?

Hi all,

This reads very well. I had some minor comments/ suggestions. Please take them or leave them. I will not be able to log on again today and Barbara is on AL until Monday, so please move forward as you see fit if this needs to get out this week.

Thanks,  
Andrew

---

**From:** Ross, Mary  
**Sent:** Friday, May 13, 2016 11:16 AM  
**To:** D'Amico, Louis  
**Cc:** Bussard, David; Birchfield, Norman; Jones, Samantha; Kraft, Andrew; Glenn, Barbara  
**Subject:** Re: Edits to ACC response?

## Deliberative Process / Ex. 5

Sent from my iPhone

On May 13, 2016, at 10:54 AM, D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)> wrote:

## Deliberative Process / Ex. 5

## Deliberative Process / Ex. 5

Louis D'Amico, Ph.D.

Acting Communications Director, ORD/NCEA

[damico.louis@epa.gov](mailto:damico.louis@epa.gov)

O: (703) 347-0344 M: (703) 859-1719

---

**From:** Ross, Mary  
**Sent:** Friday, May 13, 2016 10:42 AM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>  
**Cc:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** Re: Edits to ACC response?

# Deliberative Process / Ex. 5

Sent from my iPhone

On May 13, 2016, at 9:56 AM, Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)> wrote:

## Deliberative Process / Ex. 5

---

**From:** Birchfield, Norman  
**Sent:** Friday, May 13, 2016 9:48 AM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** RE: Edits to ACC response?

Hi Lou – This is an artfully crafted response. I have just a few minor suggestions on top of David's. Thanks!

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**From:** Bussard, David  
**Sent:** Thursday, May 12, 2016 6:31 PM  
**To:** D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** RE: Edits to ACC response?

Lou,

Reads well to me.

I have a few comments.

# Deliberative Process / Ex. 5

See track changes and comments.

Thanks.

David

---

**From:** D'Amico, Louis

**Sent:** Thursday, May 12, 2016 6:08 PM

**To:** Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>

**Subject:** Edits to ACC response?

Hi everyone,

# Deliberative Process / Ex. 5

Thanks all!

-Lou

Louis D'Amico, Ph.D.

Acting Communications Director

National Center for Environmental Assessment | U.S. EPA - Office of Research and Development

Mail Code 8601P | 1200 Pennsylvania Ave, NW | Washington, DC 20460

Physical/Overnight Delivery Address: U.S. EPA | Two Potomac Yard (North Building), N-7651 |  
2733 S. Crystal Drive | Arlington, VA 22202

Office: 703-347-0344 | Mobile: 703-859-1719 | Fax: 703-347-8689 | email:  
[damico.louis@epa.gov](mailto:damico.louis@epa.gov)

Message

---

**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 5/20/2016 11:11:02 PM  
**To:** Jones, Samantha [Jones.Samantha@epa.gov]  
**CC:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Hagerthey, Scot [Hagerthey.Scot@epa.gov]; Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**Subject:** \*BOOM\*! Formaldehyde draft for ERC review  
**Attachments:** FormaldehydeTRdraft\_forERC.docx; ERC Issues\_20May2016.docx; FormaldehydeAppendixdraft\_forERC.docx

Hi Samantha,

Surprise!

**Deliberative Process / Ex. 5**

Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

We look forward to the ERC review,  
Barbara and Andrew



Message

---

**From:** Jones, Samantha [Jones.Samantha@epa.gov]  
**Sent:** 7/14/2016 6:45:40 PM  
**To:** Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]  
**CC:** Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** FW: Formaldehyde review comments and discussion meeting  
**Attachments:** Formaldehyde XA JL comments.docx; Formaldehyde\_draft TR\_ERC\_May 2016\_XA JL.pdf

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

---

**From:** Arzuaga, Xabier  
**Sent:** Friday, July 08, 2016 11:34 PM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>  
**Cc:** Lee, Janice <Lee.JaniceS@epa.gov>; Hotchkiss, Andrew <Hotchkiss.Andrew@epa.gov>; Subramaniam, Ravi <Subramaniam.Ravi@epa.gov>  
**Subject:** Re: Formaldehyde review comments and discussion meeting

Hello Samantha,

**Deliberative Process / Ex. 5**

**Deliberative Process / Ex. 5**

Please let us

know if you have any question. Have a nice weekend!

Xabier

---

**From:** Jones, Samantha  
**Sent:** Wednesday, June 29, 2016 5:19 PM  
**To:** Gibbons, Catherine; Patel, Molini; Hazari, Mehdi; Lehmann, Geniece; Wright, Michael; Hotchkiss, Andrew; Walker, Teneille; Arzuaga, Xabier; Lee, Janice; White, Paul; Kopylev, Leonid; Davis, Allen; Hogan, Karen; Jarabek, Annie  
**Cc:** Flowers, Lynn; Vandenberg, John; Cogliano, Vincent; Kraft, Andrew; Glenn, Barbara; Birchfield, Norman  
**Subject:** Formaldehyde review comments and discussion meeting

Hi all,

First thank you all for agreeing to participate in this important review step for NCEA. It is greatly appreciated. For those of you in the "to" line in this email, you may recall that the deadline for comments is July 8<sup>th</sup>. I am in the process of scheduling a discussion meeting so that you all can walk through your major comments with the larger group and the assessment team. Given the number of sections and individual reviewers (see table below), I will likely schedule two meetings grouping reviewers/sections as appropriate. Be on the lookout for meeting invites in the near future.

Please note that prior to contacting each of you, we brought in three primary reviewers (Lynn Flowers, John Vandenberg, and Vince Cogliano) to review the overall assessment. We will be hosting a meeting for them to discuss their comments on Tuesday, July 12<sup>th</sup> from 9:00am to 10:30am. If you would like to sit in as an observer, please let me know.

Thanks again for your commitment and assistance in moving this assessment forward!

Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

Section(s)	Expertise/ Name	Focus
Overall assessment	John Vandenberg Lynn Flowers Vince Cogliano	These are the three primary reviewers, and their focus is on the whole assessment.
Systematic Review Methods and Implementation	Vince Cogliano Catherine Gibbons	Epidemiology/Toxicology and integration Mechanistic and integration
Hazard: Respiratory	Molini Patel Mehdi Hazari Geniece Lehman	Epidemiology Toxicology/Immunotoxicology Toxicology/Immunotoxicology
Hazard: Developmental/ Reproductive Toxicity	Michael Wright Andrew Hotchkiss	Epidemiology Toxicology
Cancer Hazard	Michael Wright Teneille Walker Primary reviewers	Epidemiology Toxicology Toxicology
MOA: Noncancer outcomes	Mehdi Hazari Janice Lee Xabier Arzuaga Teneille Walker	
MOA: URT and LHP Cancer	Catherine Gibbons	
ADME/ Toxicokinetics	Paul White	
Dose-Response (noncancer + cancer)	Leonid Kopylev Allen Davis Karen Hogan	Humans Animals Animals
Dosimetry (BBDR and treatment of Starr)	Annie Jarabek	

Message

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**From:** Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Sent:** 5/13/2016 3:54:48 PM  
**To:** Ross, Mary [Ross.Mary@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]  
**CC:** Bussard, David [Bussard.David@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]  
**Subject:** Re: Edits to ACC response?  
**Attachments:** ACC FA Response -BurkeKadeli\_draft1\_DB NB AKcmts.docx

Hi all,

This reads very well. I had some minor comments/ suggestions. Please take them or leave them. I will not be able to log on again today and Barbara is on AL until Monday, so please move forward as you see fit if this needs to get out this week.

Thanks,  
Andrew

---

**From:** Ross, Mary  
**Sent:** Friday, May 13, 2016 11:16 AM  
**To:** D'Amico, Louis  
**Cc:** Bussard, David; Birchfield, Norman; Jones, Samantha; Kraft, Andrew; Glenn, Barbara  
**Subject:** Re: Edits to ACC response?

## Deliberative Process / Ex. 5

Sent from my iPhone

On May 13, 2016, at 10:54 AM, D'Amico, Louis <DAmico.Louis@epa.gov> wrote:

## Deliberative Process / Ex. 5

Louis D'Amico, Ph.D.

Acting Communications Director, ORD/NCEA

[damico.louis@epa.gov](mailto:damico.louis@epa.gov)

O: (703) 347-0344 M: (703) 859-1719

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**Sent:** Friday, May 13, 2016 10:42 AM  
**To:** Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>  
**Cc:** Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
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## Deliberative Process / Ex. 5

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On May 13, 2016, at 9:56 AM, Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)> wrote:

## Deliberative Process / Ex. 5

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**Subject:** RE: Edits to ACC response?

Hi Lou – This is an artfully crafted response. I have just a few minor suggestions on top of David's. Thanks!

---

**From:** Bussard, David  
**Sent:** Thursday, May 12, 2016 6:31 PM  
**To:** D'Amico, Louis <[DAmico.Louis@epa.gov](mailto:DAmico.Louis@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** RE: Edits to ACC response?

Lou,

Reads well to me.

I have a few comments.

## Deliberative Process / Ex. 5

See track changes and comments.

Thanks.

David

---

**From:** D'Amico, Louis  
**Sent:** Thursday, May 12, 2016 6:08 PM  
**To:** Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Jones, Samantha <[Jones.Samantha@epa.gov](mailto:Jones.Samantha@epa.gov)>; Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>  
**Subject:** Edits to ACC response?

Hi everyone,

# Deliberative Process / Ex. 5

Thanks all!

-Lou

Louis D'Amico, Ph.D.

Acting Communications Director

National Center for Environmental Assessment | U.S. EPA - Office of Research and Development

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[damico.louis@epa.gov](mailto:damico.louis@epa.gov)

Message

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**From:** Jones, Samantha [Jones.Samantha@epa.gov]  
**Sent:** 7/14/2016 6:45:05 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** FW: Formaldehyde: NCEA Executive Review Committee  
**Attachments:** Formaldehyde\_draft Tox Review\_ERC\_May2016 (002) tdw comments.docx

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

---

**From:** Walker, Teneille  
**Sent:** Friday, July 08, 2016 10:11 AM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>  
**Subject:** Re: Formaldehyde: NCEA Executive Review Committee

Hi Samantha,

I wasn't sure who I should send comments too, so I am just sending it to you. Let me know if there are others you need me to send this to.

# Deliberative Process / Ex. 5

---

**From:** Jones, Samantha  
**Sent:** Monday, June 13, 2016 10:44 AM  
**To:** Walker, Teneille  
**Cc:** Subramaniam, Ravi  
**Subject:** Formaldehyde: NCEA Executive Review Committee

Hi Teneille,

You have been identified as a reviewer for formaldehyde, specifically looking at the *toxicology cancer hazard and MOA sections*. Michael Wright is looking at the epidemiology cancer hazard and Catherine Gibbons is specifically looking at the upper respiratory tract and LHP cancer MOA. You do not have to specifically coordinate with them but I wanted you to know they others are looking at the various pieces of the assessment. Although the draft assessment (attached) does not include a table of contents, you can go to the "View" table and select "Navigation Pane" and you can maneuver through the assessment that way.

The comment deadline is Friday, July 8<sup>th</sup>. We will have a meeting to discuss major issues/comments with the larger group soon after that.

Let me know if you have any concerns.

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

---

**From:** Jones, Samantha

**Sent:** Tuesday, May 24, 2016 8:28 PM

**To:** Olden, Kenneth <Olden.Kenneth@epa.gov>; Vandenberg, John <Vandenberg.John@epa.gov>; Lynn Flowers <Flowers.Lynn@epa.gov>; Cogliano, Vincent <cogliano.vincent@epa.gov>; Perovich, Gina <Perovich.Gina@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Walsh, Debra <Walsh.Debra@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Hagerthey, Scot <Hagerthey.Scot@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Morozov, Viktor <Morozov.Viktor@epa.gov>; Susan Rieth <Rieth.Susan@epa.gov>; Andrew Hotchkiss <Hotchkiss.Andrew@epa.gov>; Subramaniam, Ravi <subramaniam.ravi@epa.gov>; Stanek, John <Stanek.John@epa.gov>; Lambert, Jason <Lambert.Jason@epa.gov>; Hawkins, Belinda <Hawkins.Belinda@epa.gov>; Johnson, Craig <Johnson.Craig@epa.gov>; Gatchett, Annette <Gatchett.Annette@epa.gov>; Ted Berner <Berner.Ted@epa.gov>; D'Amico, Louis <damico.louis@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; White, Paul <White.Paul@epa.gov>

**Subject:** Formaldehyde: ERC Review

Hello all,

# Deliberative Process / Ex. 5

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580



Message

---

**From:** Schlosser, Paul [Schlosser.Paul@epa.gov]  
**Sent:** 11/3/2016 7:40:25 PM  
**To:** Birchfield, Norman [Birchfield.Norman@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Cogliano, Vincent [cogliano.vincent@epa.gov]  
**Subject:** RE: Formaldehyde: Check in on BBDR text  
**Attachments:** Ravi Revised Main.pms.docx

I have some small editorial corrections in the attached and, towards the end, a couple of key comments.

Deliberative Process / Ex. 5

# Deliberative Process / Ex. 5

-Paul



Ravi Revised  
Main.pms.docx

-----Original Appointment-----

**From:** Birchfield, Norman  
**Sent:** Thursday, November 03, 2016 9:38 AM  
**To:** Glenn, Barbara; Kraft, Andrew; Schlosser, Paul; Cogliano, Vincent  
**Subject:** Formaldehyde: Check in on BBDR text  
**When:** Thursday, November 03, 2016 4:00 PM-5:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** DCRoomPYS11731-Capitol

Call in no.: **Conference Line/Code / Ex. 6**

Purpose: to discuss the attached text provided by Ravi (Ravi gets back Nov 7<sup>th</sup>)

<< File: Ravi Revised Main.docx >>

Message

---

**From:** Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Sent:** 5/13/2016 1:47:52 PM  
**To:** Bussard, David [Bussard.David@epa.gov]; D'Amico, Louis [DAmico.Louis@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: Edits to ACC response?  
**Attachments:** ACC FA Response -BurkeKadeli\_draft1\_DB NB cmts.docx

Hi Lou – This is an artfully crafted response. I have just a few minor suggestions on top of David's. Thanks!

---

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**Sent:** Thursday, May 12, 2016 6:31 PM  
**To:** D'Amico, Louis <DAmico.Louis@epa.gov>; Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** RE: Edits to ACC response?

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# Deliberative Process / Ex. 5

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Thanks.

David

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**Sent:** Thursday, May 12, 2016 6:08 PM  
**To:** Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** Edits to ACC response?

Hi everyone,

# Deliberative Process / Ex. 5

Thanks all!

-Lou

Louis D'Amico, Ph.D.

Acting Communications Director

National Center for Environmental Assessment | U.S. EPA - Office of Research and Development

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Office: 703-347-0344 | Mobile: 703-859-1719 | Fax: 703-347-8689 | email: [damico.louis@epa.gov](mailto:damico.louis@epa.gov)

Message

---

**From:** Jones, Samantha [Jones.Samantha@epa.gov]  
**Sent:** 7/5/2016 10:02:13 PM  
**To:** Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**CC:** Birchfield, Norman [Birchfield.Norman@epa.gov]  
**Subject:** FW: Formaldehyde: NCEA Executive Review Committee  
**Attachments:** Lehmann comments Formaldehyde draft May2016.docx; Formaldehyde\_draft Tox Review\_ERC\_May2016\_gml.docx; Formaldehyde\_draft Appendices\_ERC\_May2016\_gml.docx

Another set of comments. Just wanted to note that for next Tuesday (the 12<sup>th</sup>), we will only be focusing on comments from Vince, Lynn Flowers, and John Vandenberg.

Thanks,  
Samantha

---

**From:** Lehmann, Geniece  
**Sent:** Tuesday, July 05, 2016 4:09 PM  
**To:** Jones, Samantha <Jones.Samantha@epa.gov>  
**Cc:** Stanek, John <Stanek.John@epa.gov>  
**Subject:** RE: Formaldehyde: NCEA Executive Review Committee

Hi Samantha,

Below (and attached) are my comments on the formaldehyde assessment. I know that the instructions on your email to the ERC said to copy everyone. But, since I wasn't on the original email, I'm going to go ahead and let you do the distributing just in case that instruction doesn't pertain to me.

Thanks,  
Geniece

Geniece M. Lehmann, Ph.D.  
Toxicologist  
National Center for Environmental Assessment  
Office of Research & Development  
U.S. Environmental Protection Agency, B243-01  
RTP, NC 27711

Phone: 919-541-2289  
Fax: 919-541-0245

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# Deliberative Process / Ex. 5

# **Deliberative Process / Ex. 5**

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# **Deliberative Process / Ex. 5**

# Deliberative Process / Ex. 5

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**From:** Jones, Samantha  
**Sent:** Tuesday, May 24, 2016 9:11 PM  
**To:** Lehmann, Geniece <[Lehmann.Geniece@epa.gov](mailto:Lehmann.Geniece@epa.gov)>  
**Cc:** Stanek, John <[Stanek.John@epa.gov](mailto:Stanek.John@epa.gov)>  
**Subject:** Formaldehyde: NCEA Executive Review Committee

Hi Geniece,

You have been identified as an ideal reviewer for formaldehyde. You would be asked to look at the respiratory hazard immunotoxicological evidence.

Understanding you are busy with PCBs and other activities, we are asking you to set aside some time to conduct this review. Let me know if you have any concerns.

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

---

**From:** Jones, Samantha  
**Sent:** Tuesday, May 24, 2016 8:28 PM  
**To:** Olden, Kenneth <[Olden.Kenneth@epa.gov](mailto:Olden.Kenneth@epa.gov)>; Vandenberg, John <[Vandenberg.John@epa.gov](mailto:Vandenberg.John@epa.gov)>; Lynn Flowers <[Flowers.Lynn@epa.gov](mailto:Flowers.Lynn@epa.gov)>; Cogliano, Vincent <[cogliano.vincent@epa.gov](mailto:cogliano.vincent@epa.gov)>; Perovich, Gina <[Perovich.Gina@epa.gov](mailto:Perovich.Gina@epa.gov)>; Ross, Mary <[Ross.Mary@epa.gov](mailto:Ross.Mary@epa.gov)>; Walsh, Debra <[Walsh.Debra@epa.gov](mailto:Walsh.Debra@epa.gov)>; Bussard, David <[Bussard.David@epa.gov](mailto:Bussard.David@epa.gov)>; Hagerthey, Scot <[Hagerthey.Scot@epa.gov](mailto:Hagerthey.Scot@epa.gov)>; Birchfield, Norman <[Birchfield.Norman@epa.gov](mailto:Birchfield.Norman@epa.gov)>; Morozov, Viktor <[Morozov.Viktor@epa.gov](mailto:Morozov.Viktor@epa.gov)>; Susan Rieth <[Rieth.Susan@epa.gov](mailto:Rieth.Susan@epa.gov)>; Andrew Hotchkiss <[Hotchkiss.Andrew@epa.gov](mailto:Hotchkiss.Andrew@epa.gov)>; Subramaniam, Ravi <[subramaniam.ravi@epa.gov](mailto:subramaniam.ravi@epa.gov)>; Stanek, John <[Stanek.John@epa.gov](mailto:Stanek.John@epa.gov)>; Lambert, Jason <[Lambert.Jason@epa.gov](mailto:Lambert.Jason@epa.gov)>; Hawkins, Belinda <[Hawkins.Belinda@epa.gov](mailto:Hawkins.Belinda@epa.gov)>; Johnson, Craig <[Johnson.Craig@epa.gov](mailto:Johnson.Craig@epa.gov)>; Gatchett, Annette <[Gatchett.Annette@epa.gov](mailto:Gatchett.Annette@epa.gov)>; Ted Berner <[Berner.Ted@epa.gov](mailto:Berner.Ted@epa.gov)>; D'Amico, Louis <[damico.louis@epa.gov](mailto:damico.louis@epa.gov)>; Glenn, Barbara <[Glenn.Barbara@epa.gov](mailto:Glenn.Barbara@epa.gov)>; Kraft, Andrew <[Kraft.Andrew@epa.gov](mailto:Kraft.Andrew@epa.gov)>; White, Paul <[White.Paul@epa.gov](mailto:White.Paul@epa.gov)>  
**Subject:** Formaldehyde: ERC Review



Hello all,

# Deliberative Process / Ex. 5

Thanks,  
Samantha

Samantha J. Jones, Ph.D  
Acting Associate Director for Health, ORD/NCEA  
Phone: (703) 347-8580

Message

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**From:** Bussard, David [Bussard.David@epa.gov]  
**Sent:** 5/12/2016 10:31:11 PM  
**To:** D'Amico, Louis [DAmico.Louis@epa.gov]; Ross, Mary [Ross.Mary@epa.gov]; Jones, Samantha [Jones.Samantha@epa.gov]; Birchfield, Norman [Birchfield.Norman@epa.gov]; Kraft, Andrew [Kraft.Andrew@epa.gov]; Glenn, Barbara [Glenn.Barbara@epa.gov]  
**Subject:** RE: Edits to ACC response?  
**Attachments:** ACC FA Response -BurkeKadeli\_draft1\_Dbcmts.docx

Lou,

Reads well to me.

# Deliberative Process / Ex. 5

See track changes and comments.

Thanks.

David

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**From:** D'Amico, Louis  
**Sent:** Thursday, May 12, 2016 6:08 PM  
**To:** Ross, Mary <Ross.Mary@epa.gov>; Jones, Samantha <Jones.Samantha@epa.gov>; Bussard, David <Bussard.David@epa.gov>; Birchfield, Norman <Birchfield.Norman@epa.gov>; Kraft, Andrew <Kraft.Andrew@epa.gov>; Glenn, Barbara <Glenn.Barbara@epa.gov>  
**Subject:** Edits to ACC response?

Hi everyone,

# Deliberative Process / Ex. 5

Thanks all!

-Lou

Louis D'Amico, Ph.D.  
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